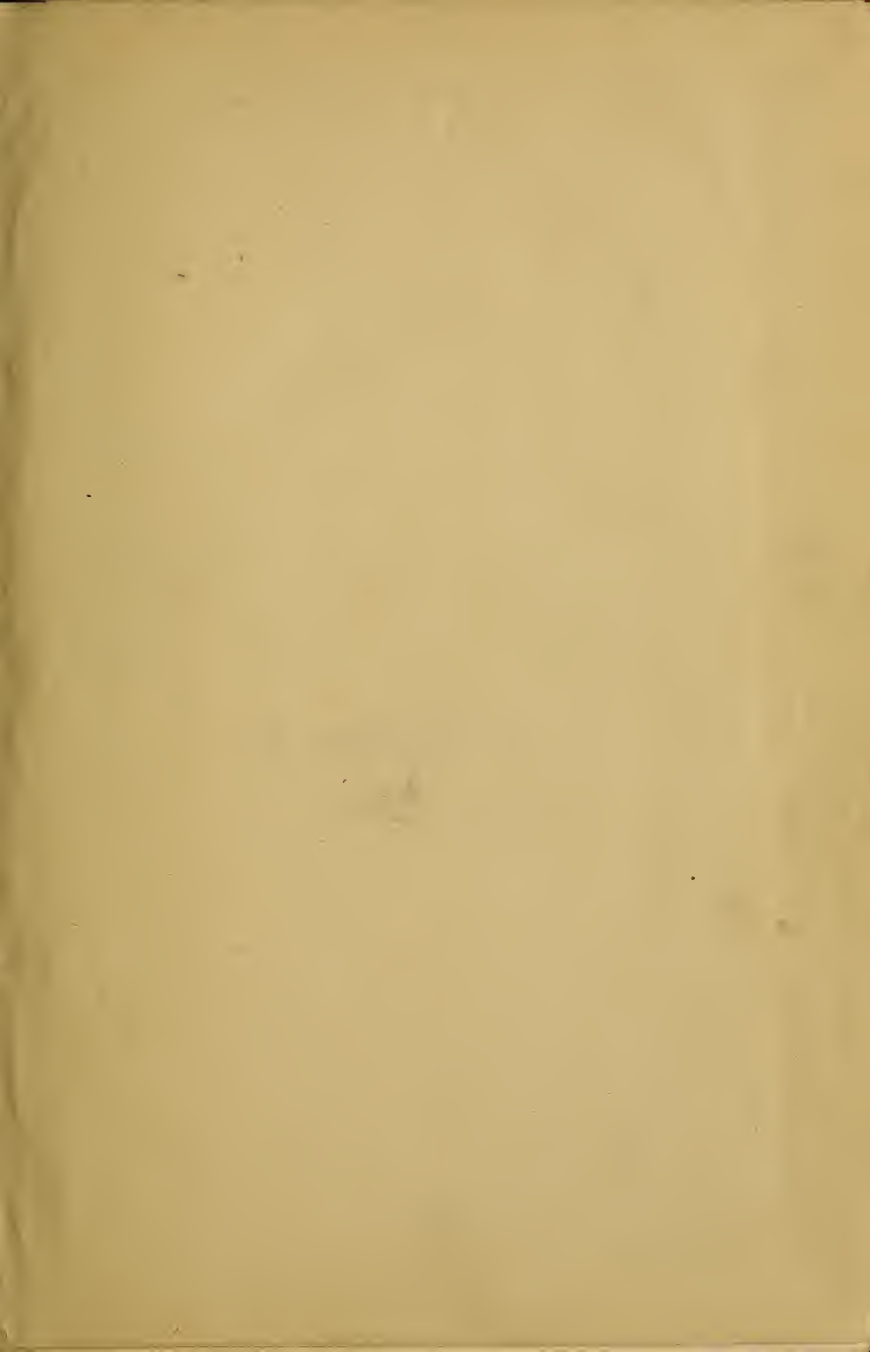


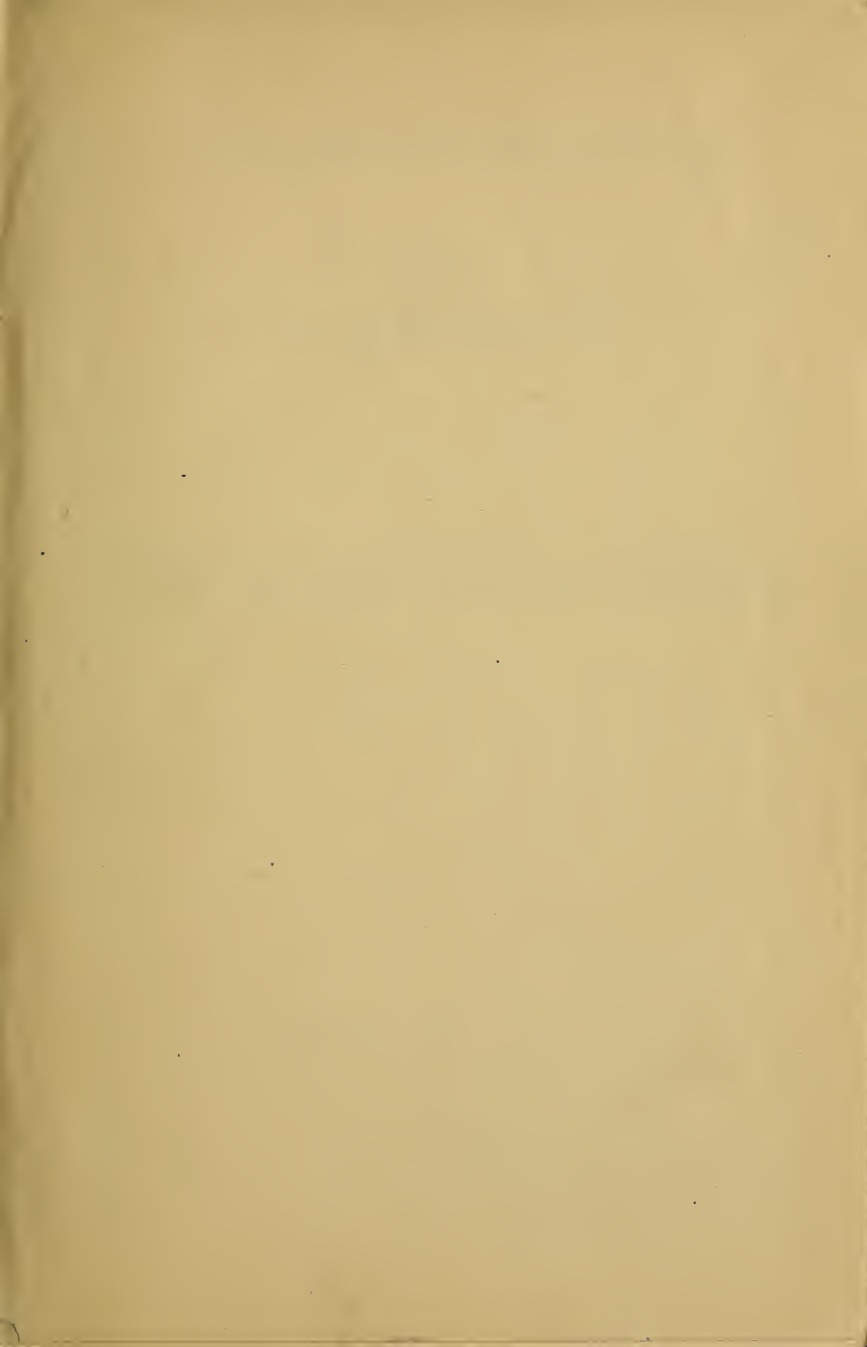


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THE JUNIOR HIGH SCHOOL

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By

copy
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PREFACE

The author is frank to admit that this book is not a complete treatise on the junior high school. To write such a treatise there would have to be available a vast mass of facts, statistics, and experimental data about the subject. ✓ The junior high school is too new an institution to have had time and opportunity for the accumulation of such scientific material. There has been an insistent demand for a reorganization of our school system. It did not seem as if those demands could be met under the 8-4 plan of grouping grades. There arose—in response to the demand—a new institution, the junior high school, created to carry out the reorganization.

It was not as if an old institution had been asked to do new work. Not at all. It was pretty well decided beforehand what was needed to be done. The problem was, can the present organizations do the things needed? Some educators said, yes. Others said, no, and proceeded to create a new school to do the work. Since then Professor Johnston's statement that "the junior high school movement is sweeping the country" has become literally true.

There have been some precedents in Europe and in this country for the creation of this school. These fore-runners are briefly described by the author. It is not pretended, however, that these were real junior high schools.

This book is put forth as a guide for the study of the junior high school movement. It is full of suggestions, full of arguments, full of enthusiastic hopes. It is put forth as a pathfinder. The author has necessarily drawn largely on his personal observations in his own schools at Pomona; but

he has also had the pleasure of visiting the junior high schools in Los Angeles, Berkeley, Detroit, Houston, and Salt Lake City.

The author wishes to thank the many superintendents who have responded to his requests for information. He wishes especially to thank Dr. David P. Barrows, formerly Dean of the Faculties of the University of California, now Major, Chief of the Intelligence Department, Philippine Islands, and Prof. E. E. Lewis and Prof. T. H. Briggs, of Teachers' College, Columbia, for valuable suggestions, criticism and inspiration. For faults in the book the author wishes himself solely and alone to be held responsible.

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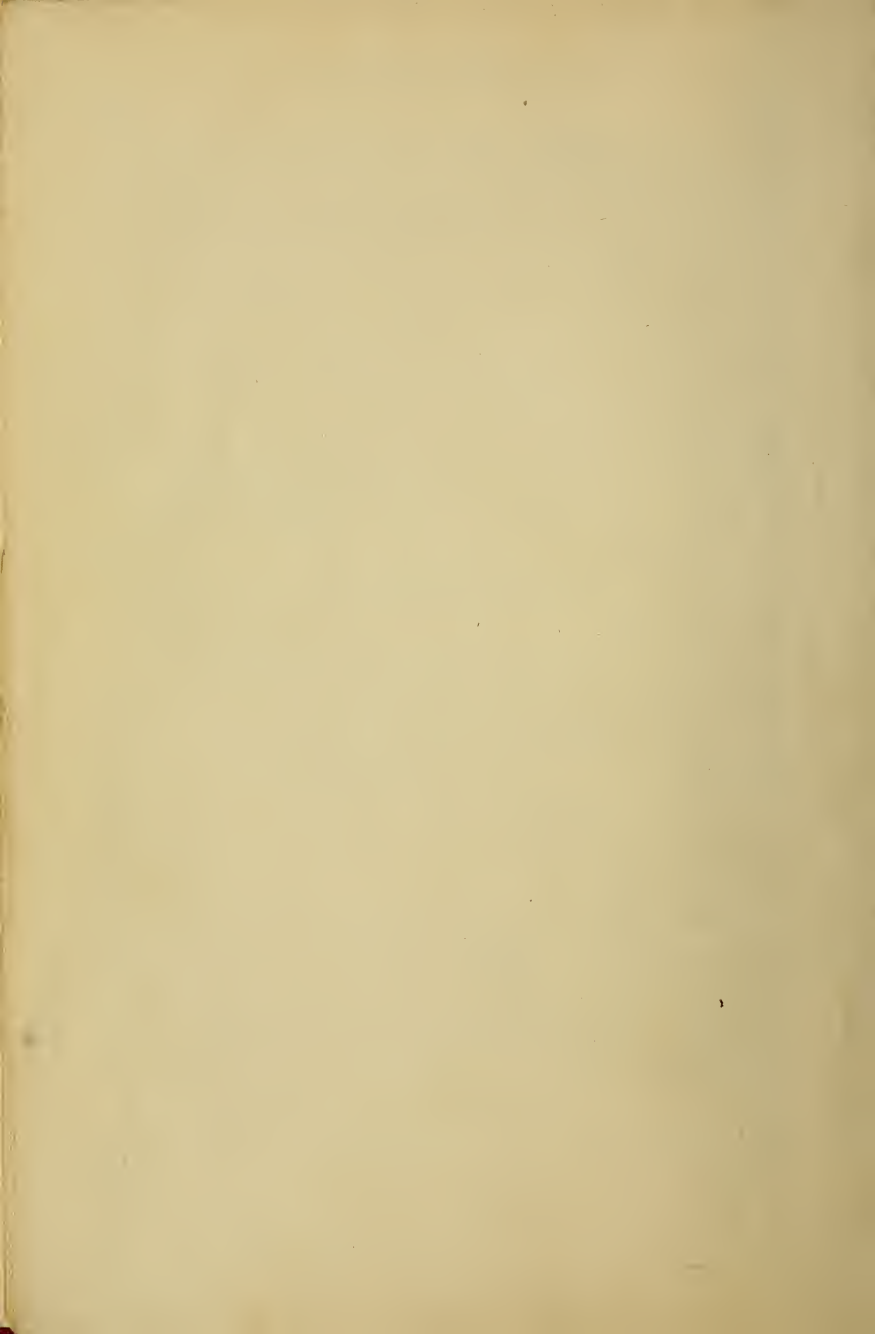
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CHAPTER ONE

THE PROBLEMS AND THE SOLUTION

1. Definition of Junior High School and Outline of the Subject: A junior high school in the fullest sense in which it is commonly used has the following characteristics:

- 1 (a) It is a separate educational institution, with a distinct organization and corps of officers and teachers.
- 2 (b) It embraces the seventh, eighth and ninth grades (or years of work) and sometimes the tenth.
- 3 (c) It has a curriculum in the seventh and eighth grades enriched by the presence of several high school subjects or by the broadening, culturizing or vocationalizing of the so-called common branches.
- 4 (d) It promotes by subject even in the seventh and eighth grades.
- 5 (e) It permits and encourages a differentiation of courses for the different pupils.

It is with the above meaning that the term will be used in this book. Many schools that fall short of all these characteristics by one point are called junior high schools. But in practically all cities where the movement for establishing these schools has gotten well under way, the ideal toward which the authorities are working embraces all of these points.

In California the term originally used was "intermediate high school," later shortened to "intermediate school," but the term "junior high school" is rapidly supplanting the others. In New York City the "intermediate school" is not properly a secondary school, although it is tending to become such.

The reader must bear in mind that the junior high school movement is so new and is undergoing so many modifications and improvements that what is true of it this year may fall far short of the truth next year.

The subject of the junior high school will be treated first as an educational movement, and second as an institution. In the first division we shall treat, in this chapter, the causes leading to the birth of the movement; in the second chapter, the history of the movement; in the third chapter, the objections raised to the creation of a junior high school; in the fourth chapter, the ascertained and prospective effects of the movement upon the elementary school.

In the second division—the school as an institution—we shall devote chapters v and vi to the curriculum and courses of study; chapter vii to the preparation, selection and organization of faculties; chapter viii to problems of teaching; chapter ix to administration; chapter x to the relation of the junior high school as an institution to the senior high school; and chapter xi to the author's conception of an ideal environment, housing, equipment, and officering of a junior high school.

In this chapter we shall take up the causes that produced the junior high school movement. We shall find that society has made certain demands on the public schools with which the school system found it impossible under the 8-4 organization successfully to cope. The junior high school came into existence to meet these demands. The four most important demands were: (1) That the enormous leakage from school in the seventh, eighth, ninth and tenth grades cease; (2) That an effort be made to destroy the influences of schools which tend to send young men and women into unsuitable and worthless vocations and that a positive effort be made to guide them into suitable and worthy occupa-

tions; (3) That the modern tendency to lengthen the period of preparation for skilled vocations be checked and some method be found for shortening the period so that men may become self-supporting and society-supporting at an earlier age; and, finally (4) That the school system check the physical, mental and moral evils that accompany and grow out of adolescence.

After showing how bad were the conditions that caused these demands to be made, we shall proceed to explain how these demands are being met by the junior high school.

2. The Problems. A. Leakage in the seventh and eighth grades and in high school. The records in Los Angeles City, where compulsory attendance is more strictly enforced than in most cities, show that in the years 1896 to 1911, inclusive, there was an average dropping out, as follows: From the fifth grade, 18 per cent of those registered in that grade; from the sixth grade, 20 per cent; from the seventh, 30 per cent; from the eighth, 17 per cent. As the eighth was the last grade of the elementary school, the dropping out after graduation would greatly increase the percentage above the 17 per cent here recorded. The law required children to attend school up to the fifteenth birthday; but there was a large number of Mexican children who reached that age in the fifth and sixth grades. The statistics of Los Angeles do not show how many dropped out at the end of the eighth grade; but in Grand Rapids 24 per cent of eighth-grade graduates failed to enter the ninth grade, and in Evansville, Indiana, 44 per cent. In the Franklin School of Berkeley, California, 59 per cent of eighth-grade graduates did not enter high school.

Thorndike's statistics show that for the country in general, out of every 100 pupils finishing the sixth grade only

79 finish the seventh and only 59 finish the eighth. Ayres' figures show 79 and 57, respectively.

As to leakage in high school, the record in Cincinnati showed that of the 1766 pupils enrolled in the ninth grade in 1912-13, only 1128 enrolled in the tenth grade the next year, and 714 in the eleventh grade in the following year. This shows a loss of 36.1 per cent the first year and 23.5 per cent the second year. The leakage in the tenth grade, however, was 36.7 per cent of those that entered it. The statistics of Los Angeles from 1896 to 1911 show that 54 per cent of those who entered the high school dropped out before the end of the first year; and of those who remained to take up the tenth grade, 45 per cent dropped out before the end of the year. The Minneapolis report showed similar results.

Thorndike's figures for the entire country show that between the end of the eighth year and the end of the ninth, out of every 100 pupils 33 dropped out, and during the next year 25 more dropped out. Ayres' statistics show that out of every 100 graduates of the eighth grade 22 dropped out in the ninth grade and 42 in the tenth. While these accounts differ in detail, in final result they agree that about 60 per cent of elementary-school graduates fail to reach the third year of high school.

B. Selecting the wrong vocation in life. Another social problem that presses for solution is that of getting each person into the occupation that will serve best his own interests and those of society. The good of both the individual and of society requires that boys and girls find at a reasonably early age the vocation for which they are best adapted and that all preparation possible be made for that occupation.

There is a large number of failures in business attributable

to the unfitness of the employer and the employees for carrying on that business. In 1915 there were 22,156 such business failures in this country. There are other contributory causes, of course, but unfitness stands out as a principal one. The vast armies of idle poor that hang about city employment offices testify to the failures in fitting for the right employment. Competent authorities state that a large proportion of men change their occupations two or three times before they get into the right ones. If a man does not decide upon his vocation until he reaches twenty-five or thirty years of age, he has only natural aptitude to rely on; he has not time then to prepare himself adequately for an occupation.

Not only is the misfit unsuccessful in the occupation into which he is driven, but he finds it irksome. He is unhappy in his work. This unhappiness and poor remuneration affect his family relationship, disturbing its equilibrium and bringing about pessimism and distress. Society also finds itself cheated out of what it expects and demands of each individual. It may even have to support the individual or his family and is thereby burdened with pathological and curative measures—a condition that prevents the carrying out of its creative and developmental program. Society feels the loss of such a man's monetary contribution to its progress.

C. Delayed entrance into skilled vocations. We hear in these days a constant complaint of the system of schooling that prevents young men from getting started in their professions or occupations until late in their twenties. With twelve years for public education, four for college, and three for professional training in the university, a man finds himself ready to begin work at twenty-five years of age if he has been fortunate. If, however, he failed to pass

some lower grade; if his parents moved from one state to another, or from one city to another, entailing a loss of a grade; if he did not enter school until he was seven years old; or if sickness or other causes interrupted his steady advance in school, he will not finish his university work until he is twenty-six or twenty-seven. It takes so long to get a start in the professions or in business, that often he is well past thirty before he finds himself self-supporting. All these things tend to delay marriage to middle age, and sometimes entirely prevent it. If, by misfortune, the young man should marry in his early twenties, he is condemned to such cruel privations and struggles that his chances for success are slim.

This is true not only in the professions, but equally so in many lines of agriculture. Orchards require several years to mature, and farms cannot be stocked short of three or four years. If the young man has neither the land nor the capital to start farming as soon as he is graduated from the university, he will find that he must wait several years longer before his education will yield him any permanent income. Most young men, foreseeing this long delay, go directly into agriculture without taking a university course at all.

D. Evils growing out of adolescence. These are of three kinds though closely inter-related. The physical evils result from (a) arrested development, caused by some disease, from overstudy, fright, etc.; (b) perverted sex habits, as self-abuse; (c) habits arising out of the adolescent's sudden induction into manhood which gives him the adult's desires and freedom to satisfy them but not the adult's restraining will power, such as the habit of keeping late hours, smoking, chewing tobacco, drinking liquor, eating rapidly, and choosing irregular diet; (d) a reaching and

straining to do things that their elders do, without proper judgment, such as running endurance races; and (e) improper actions by girls at delicate bodily periods and neglect of bodily needs through a prudish sense of modesty.

There are several mental evils that grow out of adolescence: (a) Arrested mental development caused by the physical changes incident to adolescence or caused by worry over those changes; (b) mental weakness caused by excessive indulgence in sex thoughts and habits; (c) habits arising out of the adolescent's sudden induction into manhood which gives him freedom to do much as he pleases, such habits as idleness, irregularity in work, fickleness, weakness of will; (d) mental stagnation resulting from the youth's leaving school and entering unskilled work; (e) the "big-head," contempt for the opinions of others, unwillingness to learn, a feeling of "knowing it all."

The moral evils are more definite and far-reaching. Many writers insist that they are actually worse now than ever before and are steadily getting worse. The following are some of those moral evils arising directly from adolescence: (a) Lying to parents and weaving webs of deceit; (b) disobedience to parents and general outlawry against the home; (c) playing "hookey" from school, cutting classes, chafing against restraints of any kind; (d) habits arising out of the freedom and independence that come with adolescence, such as the reading of trashy novels, frequenting bad moving picture houses, smoking, gambling, drinking, staying out late at night, indulging in excessive social affairs, stealing to meet the unusual need for spending money; (e) perverted sex habits (ranging from mere "looseness" of actions to downright "shamelessness").

3. Preventing Leakage by the junior high school.

The leakage in the seventh and eighth grades is attributed to several causes, of which dislike for school as taught under

the old plan is the principal one. This dislike for school arose from the fact that the pupils were tired of going over and over the common-school studies, that they disliked to associate with the little children who had no community of interest with them, and that they wanted some real, telling work to do, work which was to be found only outside the walls of school. There were, of course, other contributing causes. Many children had to go to work to help support their families, and they felt that the longer they stayed in the old-time school the less fit they were for taking the small jobs which children can readily secure.

This leakage in the seventh and eighth grades the junior high schools were organized to check. They plan to reduce the dropping out of school by keeping children interested in school work. The common branches, if taught at all in these two grades, are to be so effectively changed in nature that the pupils will not recognize in them their old enemies. If arithmetic appears at all, it is as elementary accounts, bookkeeping or commercial arithmetic. If it is served to them in this way, the boys and girls enjoy the feast. Other subjects are added—subjects that appeal to the ambition of the young people. The two grades are taken from the grammar school building and housed in new quarters where the pupils will have only children of their own ages or older children to associate with. The real, telling work of the big outside world is brought into these new schools, and the youngsters have their legitimate ambitions satisfied in school work. Finally, the junior high schools are being so conducted as to make it possible for boys to help the parents, as in Los Angeles, either by part-time work in stores or by selling the product of their manual training or school-gardening work.

We have available some statistical records of the influence

of the junior high school in retaining pupils in school. Grand Rapids, Michigan, is a city in which school attendance was kept up to a very high standard even before the institution of the junior high school. The following statistics are taken from an article by Paul C. Stetson in the April, 1918, *SCHOOL REVIEW*, but arranged by the author so as to show the facts which he wishes to bring out. His figures show that the elementary school enrollment remained practically stationary from 1908 to 1916, the increase being almost entirely in grades VIII to XII, inclusive. He states that the junior high schools were established in 1912. Not all seventh and eighth grade pupils were at once assigned to the junior high schools. The enrollment in the seventh grade remained about the same until 1913, when it began to grow by leaps and bounds after feeling the effects of the junior high school upon it. The eighth grade had hardly been able to hold its own until 1914, when the effect of the junior high school began to be felt. Here are the figures. We have underlined the figures where the junior high school's influence is felt.

	Seventh Grade	Eighth Grade
1908	1091	946
1909	1087	1039
1910	1063	1053
1911	1161	992
1912	1082	1072
1913	<u>1262</u>	990
1914	<u>1188</u>	<u>1140</u>
1915	<u>1272</u>	<u>1097</u>
1916	<u>1346</u>	<u>1296</u>

The next case to which we wish to refer is that of Macomb, Illinois, as reported by Superintendent V. L.

Margun. In this city the junior high school was established in 1915-16, the results showing in 1916-17 in the seventh grade. The enrollment in the seventh grade had been at a standstill while the population of the city had been steadily increasing—as shown by the enrollment in grades I to VI. The following are the results:

	Grades I to VI	Grade VII
1913	731	83
1914	745	82
1915	745	82
1916	748	81
1917	743	123

In order to show how the junior high school is to solve the problem of the great mortality in high school, we must be able to say what is the cause of the dropping out in the first and second years of high school. The following seem to be the most usual and best known: (1) The departmental system is confusing to the new pupils. (2) High school lessons are so much harder than those of the grade school that failures are far more frequent. Lessons are longer and require much home study. (3) High school teachers are thought to be less sympathetic—in fact, cold and indifferent to the success or failure of students. (4) Pupils are thrown immediately upon their own responsibility in the preparation of their work; they neglect, stumble, flounder, become discouraged, drop out. (5) It seems a long time before they will finish—four years—therefore they lose heart. (6) The desire is so strong in the breast of the adolescent really to “do” something, that cultural studies seem a waste of time.

At first the student likes the change from grades to high school. There is greater freedom, greater school spirit and activity, everything is new, the buildings and equipment are

fascinating, there is a thrill of joy about the whole institution. If the pupils had no work to do and could dabble in the things that they like, their interest would not flag. The days would be one long dream of pleasure! But, alas and alack, the state does not support costly institutions merely to amuse young people in their "teens." The evil days speed on apace; there comes a time of reckoning about the end of the first quarter, when the report cards show low grades and failures. The pupil feels that he has been mistreated, that the lessons were too hard and too long, that the teacher takes little interest in the freshmen and in him in particular, that he should have been warned that he was failing, that the teacher did not give him help, that he got a late or wrong start through no fault of his own, that he should have been *made* to study and not allowed to drift. Finally, he concludes that four years spent in hard work upon senseless studies are a waste of time for him, he cuts classes, stays out of school a day or two at a time, sulks while in school, answers the teacher's questions with an abused "I dunno," which implies that no person in his right mind could know anything about such meaningless stuff as is found in textbooks, and finally leaves school.

The junior high school is undertaking to prevent this enormous dropping out of pupils in the ninth and tenth grades by bridging the chasm through gradual departmentalization, by introducing new and difficult studies gradually, by spreading subjects over a longer period so that each lesson will be short enough to be prepared under the school roof, by employing sympathetic teachers of boys and girls, by slowly extending the individual responsibility of the youth, by cutting in two the long period of time required to finish school, so that graduation is not so far in the future, and by giving the adolescent work that will appeal to his interests and ambitions.

Departmentalization should begin gradually and in a school where the pupil and not the subject is the prime consideration of the teachers. The first year of high school is evidently not the best place for its abrupt beginning. Departmentalization should be pretty well developed by the time the ninth grade is reached; but it should be a matter of development, not of abrupt change.

The junior high school offers to solve this problem for us by taking the one-teacher-taught pupil and sympathetically and gradually introducing him to departmental teaching. A sympathetic class adviser teaching him one solid subject and two or three minors like penmanship, spelling, and oral English, or teaching him two or three solids in the seventh grade, will make the transition easy and pleasant and safe. The other teachers, too, with the right interest in children, will appreciate his difficulties and help him over the yawning chasm, even at the expense of strict requirements of the curriculum.

The effect of the junior high school on enrollment in ninth grade in Grand Rapids is shown in the following table. The population of school age was practically stationary during the years 1908-16. We underline the years in which the ninth grade was affected by the establishment of junior high schools.

	Ninth grade enrollment	Gain per cent
1908	635	1. plus
1909	626	10. "
1910	693	3. "
1911	713	12. "
1912	804	12. "
1913	829	3. "
1914	<u>984</u>	18. "
<u>1915</u>	<u>1135</u>	15. "

In further proof of the efficacy of the junior high school plan in holding pupils in school, may be cited the following figures from the Pomona schools. There is a law in California compelling children to attend school until they reach their fifteenth birthday. It is so strictly enforced that we have not used figures that concern the number of sixth-grade entrants who enter seventh grade. The junior high schools were established in 1914, and in 1915 affected seventh-grade entrants who entered eighth grade; eighth-grade entrants who entered ninth grade were also affected that year. Ninth-grade entrants who entered tenth grade were not affected by the junior high school until the fall of 1916; and tenth-grade entrants who entered eleventh grade, not until 1917. We have underlined the percentages affected by the junior high school.

	7th to 8th	8th to 9th	9th to 10th	10th to 11th
Sept. 1914.....	92%	86%	93%	84%
Sept. 1915.....	100%	99%	87%	80%
Sept. 1916.....	<u>93.9%</u>	<u>92%</u>	<u>92%</u>	71%
Sept. 1917.....	<u>88.3%</u>	<u>90.5%</u>	<u>96.7%</u>	<u>95%</u>

Pomona is a residential city and began to be affected by the European war in the spring of 1916, when many families moved away to the industrial and mining centers. This loss of pupils accounts for the counter movement shown in the table. It is seen most plainly in the first, second and last columns. In the first column under the same influence the percentage sank from 100 to 93.9 and then to 88.3 per cent. In the second from 99 to 92 and then to 90.5. In the fourth column, under unvarying influences, the percentages sank from 84 to 80 and then to 71. In every grade the junior high school immediately raised the percentages as soon as

the change began to affect it. In the eighth grade the percentage was raised from 92 to 100 per cent; in the ninth grade from 86 to 99 per cent; in the tenth grade from 87 to 92 per cent; and in the eleventh from 71 to 95 per cent.

Superintendent P. W. Horn, of Houston, reports to his board as follows: "The most easily measurable result of the junior high schools is in the matter of attendance. In 1913-14 the attendance of white children in the high school of Houston was 1341. In 1916-17 the high school enrollments, not including seventh-grade pupils in junior high schools, was 2091. This shows an increase of 56 per cent in high school enrollment in three years, which is more than double the rate of increase in the elementary schools." To understand the correctness of Superintendent Horn's statement, it must be explained that Houston has no eighth grade. The seventh, first high and second high school grades are in the junior high schools, while the eleventh and twelfth are in the senior high schools.

4. Vocation selection through junior high school.

Hitherto, when the importance of vocational guidance was not appreciated or even understood, the selection of high school courses was left either to the child or to the eighth-grade teacher. Of course, the high school principal was in no position to guide the pupil, for the pupil was probably entirely unknown to him before the first day of school. The eighth-grade teacher, with her lack of close touch with high school progress, is also not a safe guide. The child's selection of a course must necessarily be haphazard unless information has by chance fallen into his hands.

There is no more important step in the life of an individual than that in which he starts upon a high school course. He may some day, after paying a fearful penalty,

overcome a mistake made at this time. There may be some high school courses so general that they will meet the needs of a large percentage of a group of a hundred beginners. In some schools there may be a chance for readjustment later on. But these cases represent the exception, not the rule.

There is undoubtedly great need for careful vocational and educational guidance. The best time for an adviser to study the boy is in the period of early adolescence, just before he enters high school. The best opportunity for such study is when the student is "exposed" to various stimuli. Let a boy take a fair amount of several subjects, and then have the vocational adviser watch carefully the effect. It should place him in a position to diagnose the case with small chance of making a mistake.

The junior high school is such an institution as will allow the greatest opportunity for this study. We have the boy or girl at just the right age. There are plenty of short courses which the pupil may take. If he is ever going to have an aptitude or liking for anything, it will surely show in the period from twelve years old to sixteen. With pre-engineering, pre-medical, pre-agriculture, pre-business, pre-everything in the curriculum that he has to take in the junior high school, he should show a response to something or to several things. A few may not respond to any of these subjects. Some superior authority, such as the parent or adviser, may well take in hand pupils of this kind and put them through a rigid general curriculum in high school, finding out thereby the things they respond to least. By a process of elimination, just what is needed by such pupils may be ascertained.

If it be true, as some educational writers assert, that early adolescents retain very little of what they learn—get in fact very little benefit from study—then it is no waste of

time to use this period for experimentation with them. It would at least be far better to use this period for experimentation and save the pupils to the high school, than to let them drop out or to drive them out by our past methods. But we are convinced by what has been done in vocational guidance through the intermediate high schools of Los Angeles, Grand Rapids, Houston and Pomona, that the richest and most valuable results are obtainable by the use of the early adolescent years of school children.

Here in the junior high school, the vocational adviser has his class in vocational information and guidance. At least one semester should be devoted by each pupil to this class. In Pomona this subject is taken by every pupil during the semester preceding his graduation into the senior high school. The pupils learn about the world of occupations, the kinds of work, the compensation of each, and the advantages and disadvantages of every vocation. Interest is aroused in the whole field of occupations, and the pupils begin to see the importance of their life careers. Here also they find that society's interests are worthy of their consideration. They awaken to the fact that they themselves are of importance in the progress of civilization.

The vocational adviser becomes well acquainted with the pupils whom he is to advise and guide. The boys and girls are also stimulated to study themselves and their own aptitudes. Guidance therefore becomes a co-operative task, in which the pupil takes an active part. In such a class he learns to study himself and measure his character, abilities and likings. This habit of introspection is of value to him, whether or not he hits upon the proper vocation at this time.

The vocational information acquired and the choice of occupation made by the pupil are immediately put into use in planning a curriculum to be taken in the senior high

school. The plan is to select such courses as will best fit the boy for service for himself and to society. The chosen vocation is to be the central object, but of course not the only object. The subjects are to be grouped about the main purpose of his education. When completely planned, this curriculum becomes the concrete result of the whole process of vocational guidance in the junior high school.

5. Shortening the course by means of the junior high school. We have spoken of the demand that men get into their life work earlier. The junior high school proposes to do its part by shortening the time required by an entire year. The university, however, feels that three or four years are already too short a time in which to give a professional course that is well-rounded and thorough. Moreover, the universities are insistent on at least two full years of college work as a preparation for the university course. On the other hand, educators insist that children should not enter school at an earlier age than six, while the laws of many states forbid earlier entrance. Long experience has shown that the tools and foundations of education are not obtainable in less than six or seven years.

The junior high school has undertaken the task of saving a year of time. It proposes to do the work of four grades in three years. In some places this plan takes the form of doing the work of the sixth, seventh, eighth and ninth grades in three years, leaving the senior high school the tenth, eleventh and twelfth grades to deal with. Richmond, Virginia, has worked out this plan very satisfactorily. The plan has many things to commend it to parents. One in particular is, that the tradition of an eight year elementary school is not changed. The children and the parents are not called upon to make any sacrifices or to change their ideals. When the child is graduated from the elementary

school he enters the tenth grade instead of the ninth grade.

The plan that commends itself to many educators and thinking parents as the best is one in which the work of the seventh, eighth, ninth and tenth grades is done in three years. In such a plan the elementary school ends with the sixth grade and the secondary school begins with the seventh. If the elementary school has done its work properly the pupil will not need much further work on the fundamental operations in arithmetic or the foundational ideas in the other subjects. Reading, of course, is continued in literature; language in English (composition and grammar); historical stories in history; arithmetical application in bookkeeping and practical accounts. Cultural subjects, such as Latin, algebra and general science, may be begun at once, with considerable simplification of the beginnings.

The following plan—the one first adopted in Pomona—will illustrate this shortening of the course:

FIRST SEMESTER	SECOND SEMESTER	THIRD SEMESTER
English (non H. S.)	English (non H. S.)	English (non H. S.)
U.S. Hist. (non H.S.)	U. S. Hist. (non H.S.)	Civics (non H. S.)
Latin ($\frac{1}{2}$ H. S. Cr.)	Latin ($\frac{1}{2}$ Cr.)	Latin ($\frac{1}{2}$ Cr.)
Algebra ($\frac{1}{2}$ H.S.Cr.)	Algebra ($\frac{1}{2}$ Cr.)	Algebra ($\frac{1}{2}$ Cr.)
FOURTH SEMESTER	FIFTH SEMESTER	SIXTH SEMESTER
Accounts (non H.S.)	Accounts (non H.S.)	Physiology (non H.S.)
English I ($\frac{1}{2}$ Cr.)	English II ($\frac{1}{2}$ Cr.)	English III ($\frac{1}{2}$ Cr.)
Latin ($\frac{1}{2}$ Cr.)	Latin ($\frac{1}{2}$ Cr.)	Latin ($\frac{1}{2}$ Cr.)
Pl. Geom. ($\frac{1}{2}$ Cr.)	Pl. Geom. ($\frac{1}{2}$ Cr.)	Pl. Geom. ($\frac{1}{2}$ Cr.)
Gen. Science ($\frac{1}{2}$ Cr.)	Gen. Science ($\frac{1}{2}$ Cr.)	Gen. Science ($\frac{1}{2}$ Cr.)
Anc. Hist. I ($\frac{1}{2}$ Cr.)	Anc. Hist. ($\frac{1}{2}$ Cr.)	Anc. Hist. ($\frac{1}{2}$ Cr.)
Manual Tr. ($\frac{1}{2}$ Cr.)	Manual Tr. ($\frac{1}{2}$ Cr.)	Manual Tr. ($\frac{1}{2}$ Cr.)
Cooking ($\frac{1}{2}$ Cr.)	Cooking ($\frac{1}{2}$ Cr.)	Cooking ($\frac{1}{2}$ Cr.)
Music ($\frac{1}{2}$ Cr.)	Music ($\frac{1}{2}$ Cr.)	Music ($\frac{1}{2}$ Cr.)
Art ($\frac{1}{2}$ Cr.)	Art ($\frac{1}{2}$ Cr.)	Art ($\frac{1}{2}$ Cr.)
Mec. Draw. ($\frac{1}{2}$ Cr.)	Mec. Draw. ($\frac{1}{2}$ Cr.)	Mec. Draw. ($\frac{1}{2}$ Cr.)

Note: The first two courses in each semester are required, and three of the last eight courses must be elected.

During the first three semesters, the pupil completes the applications of the foundation subjects and earns two high

school credits. During the second three semesters, the pupil earns five high school credits. He graduates into senior high school with seven credits, which give him eleventh grade standing. By taking four courses through the next two years he has upon graduation from senior high school fifteen credits, or enough to enter college. As he takes physical education, unprepared oral English, and singing throughout the five years, he is given an additional credit in a combination of these courses.

This curriculum is cited only as a type of plan whereby the work of four grades may be done in three years.

Another plan that helps to shorten the time of preparation for university work is that of promotion by subject in the seventh and eighth grades. While promotion by grade in the elementary grades may be defensible, such a plan is bad after the fundamentals of education have been mastered. In the lower grades harmonious development is the chief aim of the child's study; in the secondary school the chief aim is development of individual characteristics. Promotion in the elementary school may possibly be best only when the pupil attains a certain minimum standard in all subjects. Such a plan followed in the secondary schools would defeat the purpose of truly secondary education.

Promotion by subject begun with early adolescent education will tend to shorten the entire secondary curriculum. Failure in one course will not hold the pupil back in all his courses. A second failure in the same course is a pretty good indication that the pupil's best education does not need that subject, provided, of course, that the teacher has done his part properly.

Shortening the time consumed in completing the curriculum by a year and promotion by subject are possible only in some form of junior high school.

6. Adapting education to the needs of adolescence through the junior high school. The practical application of this plan consists in introducing vocational work into the curriculum to meet the growing demand for real, occupational work; departmentalizing instruction for the better development of the individuality of the pupil and for the better teaching of the rich content of secondary subjects; enriching the curriculum by new and mind-broadening subjects, such as the cultural and civic subjects; and by adapting all school life to the needs of adolescence—physical, mental, moral, and religious.

We shall discuss these various junior high school methods in connection with certain demands of the adolescent nature, first for boys and then for girls.

A. The education of adolescent boys is based upon their psychical and physical needs. To the educator or to the social reformer planning the proper education of boys, one must commend the proverb, "A little child shall lead them." To know what to do, we must study the child and let his needs tell us what kinds of training should be given.

(1) The boy's tendency to grow and be active is encouraged. In school the boy is taught that the home should provide plenty of well-cooked, nourishing food, and should not provide for much sweets, highly seasoned diet, stimulants, or rich dishes. The junior high school sees to it that the police make it impossible for him to secure liquors and tobacco in any form. The school and the playground provide plenty of physical exercise and culture, athletics, games, and manual and physical labor.

(2) The feeling of adulthood and the desire to be considered grown up are not suppressed, but are used for character building. Boys' organizations like the Scouts, Baraccas, and Corn Clubs are formed in school. The school allows the

boy certain elective studies within a safe and sane range, and under proper vocational guidance. The organization of student self-government may afford a satisfactory method of allowing boys self-expression in their desire for adulthood. Here also belong the vocational aspirations that need direction.

(3) The widening of the reasoning faculties is allowed expression in debate, orations, argumentation, and mathematical studies. Historical, political and economic studies afford excellent material for the development of these faculties.

(4) Rapid fluctuation in temperament is reduced to a minimum by the school in requiring definiteness of studies and continuation of a course through at least several months. The school assigns tasks that require regularity and persistence. The worst thing that can be done is to coddle the boy and encourage him in feeling that he has real cause for grievance. Such indulgence will inevitably lead the boy to take a pride in the obstinacy of his temper, his sulking, his fits of gloom and despondency, and his changeful moods. The junior high school injects a little more iron and sternness into its dealing with boy delinquents than does the elementary school.

(5) The strong physical emotions of adolescent boys are developed into higher aesthetic emotions. Boys like rag-time and noisy music; they are led to enjoy good music by the right process in school and in their clubs. Boys like the touch sensations felt in rubbing, wrestling, and swimming. Care must be exercised not to allow these touch sensations to become degenerate or unhealthy. Boys like rugged scenery, bright lights, and gaudy colors. The school attempts to direct this taste into the highest lines.

(6) Boys sometimes feel as if the world rested upon them and the welfare of society depended upon their opinions and actions. This feeling is seized and made use of—not for the benefit of society, but for the reflex action upon the boy. What he plans, the reforms he advocates, the changes he so valiantly champions, may never be brought to pass; but the fact that he plans, advocates, and champions, has a great effect upon his character. This impulse may be directed toward the home, the school, the church, etc., but cannot issue in anything. It is turned upon the boy's debating society, his club, his ball team, the rules of the game he plays, etc., with good effect.

(7) The distinct sensory feelings of the adolescent are worthy of careful cultivation and practical use. The school through its classes manages this activity. The sciences appeal to the boy whose senses of sight, hearing, weighing, feeling, smelling, and measuring, are keen and alert. So it is also with drawing, mensuration, surveying, manual training, and geometry.

(8) The religious awakening in boys at this age is probably associated with the emotional development of the period. Induction into church membership usually comes in the early adolescent stage, and a feeling of moral responsibility arises. The boy begins to long for a purpose in living and to plan for the future. The school teachers and advisers seize time by the forelock and gain the boy's confidence, and put him to work in some purposeful way, and show him how he can be a power for good, a leader in the battle for right. The fighting spirit in boys of this age will spur them on to enter any undertaking that smacks of battle and war. They delight to be enlisted as Christian soldiers, but they must have real fighting or they will turn away in disgust at the

hollowness of the cause. The school has its part in the development of religious feeling and moral courage, and should not shirk it.

B. Education of the adolescent girl. Even more than with the boy, we shall find this a problem of physical development—a problem that involves not the girl alone, but the future generations descendant from her. We must keep constantly in mind the fact that we are educating the mother of the race. It is important that she should have an ideal environment in which to mature her body. We insist on this to such a degree because almost the opposite has been true—the girl's physical development has been neglected and her mental development has been overstimulated, to the great detriment of the race and to the great unhappiness of the individual girl. We mean, of course, that the over schooling of girls has lessened their chances of marriage at the proper time for women to marry; and that home and society have combined to educate women in senseless styles of dress, in vicious dietary habits, in unsanitary prudery, and in physical flaccidity to a very considerable extent.

✓ The junior high school attempts sensibly to give physical education of the right sort. A good diet, exercises, proper elimination, sleep, and dress are the principal positive factors; moderation in study, in social functions, in physical labor, in standing, and climbing stairs is the principal negative factor. These matters are all worked out carefully and put into practice by persistent and wise co-operation of all concerned. Instruction in the care of the body should especially be insisted upon during the period of adolescence.

Next in importance comes the vocational education of girls for the vocation that is to engross thirty years of their life in ninety out of every hundred lives—home making. In school, girls are taught domestic science, sewing, and home

economics. They are given lessons in buying, shopping, detecting shams from realities, resisting the solicitations of salesmen of goods not needed; they are also taught how the government can assist in the training of girls for home life by eliminating the economic conditions that draw, or drive, girls into the industries.

As girls' senses are wonderfully acute at this time, their education involves the cultivation of flowers and shrubbery. They have the opportunity to hear and learn to appreciate good music, vocal and instrumental. They see works of art—pictures, statuary, and buildings. This is the period when deftness of the hands is developed by means of needlework, crocheting, fingering the piano, painting and drawing, bandaging, molding, kneading, massaging, dressing the hair, braiding.

Singing, playing the piano, drawing, and painting belong here. These may be supplemented by decorating, designing, draping, trimming, arranging of flowers, sculpturing, pounding of brass, and wood carving. Millinery, costume design, book binding, art-metal work, musical composition, versifying, dancing, and dramatization, all are taught in the junior high school and are very closely related to the natural life of the adolescent girl.

The gregariousness of girls at this period is used to advantage by the junior high school. They must have cliques and societies, with secret signs and mystery. Girls' clubs, French-speaking circles, girls' moral-training classes, taffy-making parties, girls' camps, are all necessary to this adolescent period. Through these organizations many valuable lessons are learned—co-operation, neighborliness, hygienic living, sociability, tact, self-possession, and organization.

More will be said later concerning the training of both boys and girls in good physical, mental and moral habits. Too much insistence cannot be placed upon the necessity for careful supervision by teachers of all youthful activities and watchful "big-brotherliness" twenty-four hours a day.

CHAPTER TWO

HISTORY OF THE MOVEMENT

The plan of this book is first to explain the junior high school movement, and then to describe the school as an institution. The first four chapters are devoted to the first topic. In chapter 1, we explained how conditions alleged to be caused or permitted by the school system had become so bad that the public made certain specific demands upon the school. The school system organized on the 8-4 plan did not seem to be able to meet these demands, hence the reorganization of the school system and the creation of a junior high school. The newly created school undertakes to bring about the desired reforms.

In this chapter we continue to discuss the junior high school movement. We go into its history from its inception, describing its prototypes in Europe and America and the establishment of the first successful junior high schools in this country, and relate how the National Education Association, after deliberating over the problems for many years, finally took fire and became a mighty crusading force, how the new schools sprang up all over the land. The chapter closes with a brief description of the various plans being tried in the widely scattered parts of our country.

1. Foreign systems. As the new division of the twelve grades of the American school system into two groups of six years each was largely suggested by European schools, it seems proper to describe briefly the German and French plans.

In Germany there are two distinct types of schools—one for the lower class of society, the other for the upper class. The first embraces nine years of study, beginning at the

age of six and closing normally at the age of fifteen. The curriculum is divided into two parts, an elementary school of six years and an upper division of three years. The upper division is therefore begun at the age of twelve, or at the very beginning of adolescence. The six preliminary classes only are taught in the common schools. The six elementary grades and the upper three grades are taught in the *Bürger-schulen*. The upper division is distinguished from the lower by the introduction of English and Latin in the first year and by an increase in the number of recitations per week.

The second type of school, i. e., that for the upper classes, has also a curriculum embracing nine years, but it takes the pupil at nine years of age and carries him through to eighteen years of age. The pupil enters this school able to read and write and with some knowledge of numbers. This type of school is divided into three divisions—a lower stage of three years, an intermediate stage of three years, and a higher stage of three years. There is no sharp distinction between the lower and the intermediate stages, but in general it may be said that somewhere near this dividing line the study of French, English, or Greek is begun; the number of recitation periods per week is greatly increased; history and algebraic and geometric mathematics are taken up; penmanship is discontinued; and pupils are allowed a certain amount of election of subjects. There is no break whatever between the intermediate stage and the higher stage, unless the increase from thirty-five to thirty-six recitation periods per week can be so considered.

The fact stands out clearly that what we call secondary education begins with the twelfth year of age in both lower-class and upper-class schools in Germany. The intermediate stage of the schools for the children of the upper-class people corresponds to the highest division of the *Bürger-*

schulen in all essential points, and both are of three years' duration. This intermediate school work stands out distinct and clear from the foundational type of work that precedes it.

In France there are free schools and pay schools. The elementary free or common school begins at six years of age and extends through to eleven or twelve years of age. A primary diploma is awarded. This takes the child to the beginning of adolescence. The common schools provide for two or three years of further education in what are called higher primary schools: complementary course, superior primary school, professional school, and manual arts apprenticeship school. The complementary course is conducted in the same building as the elementary school, but the other courses are in separate buildings. To enter these higher primary schools, the pupil must be twelve years of age and must have completed the elementary school. The curricula are all of three years' duration and are marked by their enrichment with what we should call secondary school subjects and with vocational or prevocational subjects.

The pay schools are partly supported by the nation or by the nation and community. They are variously called lycée, colleges, or secondary schools. They provide separate schools for boys and girls. In general the length of these curricula is five or six years for girls and seven years for boys. The curriculum is divided into two stages or cycles. The first stage contains three years for girls and four years for boys. Boys are received as young as ten or twelve years of age, and both boys and girls normally complete the first cycle by the time they are fifteen. Under the same roof that covers the lycée or college (the French college must not be confused with the American college) is conducted a primary

school for well-to-do children, to prepare them for the secondary school.

The first cycle of the secondary school—lycée, college, or secondary course—is quite sharply marked off from primary schooling in that there is given an election of studies, foreign languages are begun, the number of recitations per week is increased, religion is taught, and more attention is given to the sciences and mathematics. There is no sharp division between the first and second cycles.

There is a marked resemblance between the three-year higher primary school course and the first cycle of the lycée and college. They both cover the same years of early adolescent life; they are both distinctly marked off from primary education; they are either in entirely separate buildings from primary children or are conducted as distinctly different classes.

The reader must be struck by the parallel in the following three classes of schools:

GERMAN	FRENCH	AMERICAN
Upper division of Bürgerschulen	Higher primary school	Junior high school or intermediate high school
Intermediate stage of school for the upper classes	First cycle of lycée or college	
GERMAN	FRENCH	AMERICAN
Three year course	Three year course	Three year course
Age 12 to 15	Age 11 or 12 to 15	Age 12 to 15
Distinct from pri- mary course	Distinct from pri- mary course	Distinct from pri- mary course
Merges into upper stage	Merges into second cycle	Merges into senior high school
Some election	Some election	Some election
Foreign languages	Foreign languages	Foreign languages
Higher mathematics and sciences	Higher mathematics and sciences	Higher mathematics and sciences

2. Various plans of grouping grades in the United States. In the United States the general standard plan has been eight years of elementary education and four years of

high school. However, in the New England states the grouping was until recently quite generally nine and four. In the Southern states financial distress following the Civil War prevented the communities from offering more than seven years of elementary instruction. So they have been forced to be content with a 7-4 plan. In a canvass taken in 1911 of the 669 cities of 8,000 population or over, 489 had the 8-4 plan, 86 had the 9-4 plan, 48 had the 7-4 plan, 4 had the 8-5 plan, and the remainder had various modifications of these forms. Dr. Frank F. Bunker's monograph, from which the above data are taken, points out that ordinarily where the elementary course is nine years in length, the child starts to school at five years of age; where the course is eight years in length, he starts to school at six; and where it is seven years in length, he starts to school at seven.

In every case the pupil normally finishes his elementary course at fourteen years of age, or two years later than his French and German cousins. As adolescence begins here at twelve as in Europe, we have ignored the point that they everywhere observe, namely, that adolescent education should be different from pre-adolescent.

However, Dr. Bunker's investigation shows that even before 1911 several educators had begun to attempt to make a change in the grouping so as to adapt education to the needs of the two periods of pre-maturity pupils. Not only had the professors of education in our great universities and normal schools rebelled against the old plan, but even the administrators in our great school systems, restricted as they were by conservative public opinion, had accomplished something toward a reorganization. Still it was only an attempt, and in many cases with no clear vision of just what was needed. In some cases the changes were made because

local conditions made it necessary—empty high school and overflowing grade buildings, the need of men teachers for the upper grades, or a grade building suddenly emptied by the erection of a larger one near. But it must not be forgotten that in some instances the public actually took the lead and forced the superintendent and school board to do something.

We give below a summary of these changes made prior to 1911, and the principal features of each plan:

<i>City or School</i>	<i>Supt.</i>	<i>Year</i>	<i>Plan</i>	<i>Features</i>
Boston Latin School		1635	6 yr. H. S.	Purely college preparatory. Admitted pupils at 10 or 11 years of age. Still thriving.
Chicago		1894 1896	6 yr. H. S.	Purely college preparatory. Courses of study based upon an elementary 6 yr. curriculum.
Richmond, Ind.	Mott	1896	6-2-4	H. S. subjects in 7th and 8th grades. Promotion by subject.
Saginaw, Mich.	Whitney	1898	6-6	One year of college work. Plan abandoned.
Providence		1898	6-2-4	College-prep. courses, with foreign languages and algebra in 7th and 8th grades. Reg. H. S. 9-12 years.
Baltimore, Md.	Van Sickle	1902	6-3-2	Only brightest pupils permitted at end of 6th grade to enter these 3-yr. junior high schools. At end of two years of Jr. H. S. only the best pupils permitted to take the 3d yr. in junior high school.

<i>City or School</i>	<i>Supt.</i>	<i>Year</i>	<i>Plan</i>	<i>Features</i>
Kalamazoo, Mich.	Hartwell	1902	7-3-2	One central senior H. S., several bldgs. containing first seven or ten grades.
Muskegon, Mich.	Frost	1904	6-1-2-3	Seven grades all in one building. 8th and 9th grades in H. S. annex.
Peabody, Mass.	Albt. Robinson	1905	8-5	Change from 9-4.
Philippine Islands	D. P. Barrows	1905	6-4-2	College subjects in last 2 yrs.
Marshalltown, Ia.	Palmer		7-1-4	8th grade departmentalized and conducted in H. S. bldg.
Aurora, Ill.	Bardwell		8-5	Some H. S. subjects in 7th and 8th gr. Fifth H. S. year, college work.
Issaquah, Wash.	Bennett	1906	6-5	Two grammar grades taken into 3 yr. H. S. and departmentalized.
Selma, Ala.	Harman	1909	7-5	Change from 7-4.
Roanoke, Va.	Hart	1910	6-2-4	Work of 12 grades in 11 years.
Rahway, N. Y.	Bickett	1910	5-3-3	H. S. subjects in 7th and 8th grades. Apart from H. S. Promotion by subj.
Olean, N. Y.	Slawson		7-5	Best pupils finish H. S. at end of 11th year of school.
Ithaca, N. Y.	Boynton		6-2-4	H. S. subjects in 7th and 8th grades. Apart from H. S.
Concord, N. H.	Rundlett	1910	6-2-3	The "2" and the "3" year schools in separate bldgs. Shortens course 12 to 11 years.
New York State	A. S. Draper	1910	6-2-4	Elem. education completed in six years. Real secondary work begins in 7th grade.

<i>City or School</i>	<i>Supt.</i>	<i>Year</i>	<i>Plan</i>	<i>Features</i>
New Albany, Ind.	Buerk	1910	7-1-4	Merely a grouping of all 8th grade pupils in one bldg. Departmentalization.
Alameda, Cal.	Wood	1910	6-2-4	7th and 8th grades in same building with lower grades but departmentalization and principle of election introduced.
Los Angeles, Cal.	Moore	1910	6-2-4	Languages in 7th and 8th. Departmentalization.

From the above it will be seen that the new day was beginning to dawn even before the first decade of the twentieth century; that between 1900 and 1910 various plans were tried out, many of them containing one or more of the elements of the junior high school as described in Chapter One of this work. When at last the new plan did come into being, it came to two cities at the same time.

3. Superintendent Bunker and the Berkeley plan. In 1908 Frank F. Bunker was elected superintendent of schools for the city of Berkeley, California, after having served a year as assistant superintendent in Los Angeles under Superintendent E. C. Moore. He was a careful student of education, and was especially interested in a reorganization of the system of schools so that each grade would have a particular function and could accomplish the end desired of it. His study led him to the belief that the seventh and eighth grades had not been functioning—in fact, had been a stumbling block in the way of education; so much so that a large percentage of children were dropping out during those years and during the early years of the high school as a result of the failure of the public schools to do their work in the seventh and eighth years of the pupil's school life.

In January, 1910, upon the recommendation of Superintendent Bunker, the Berkeley School Board established the first junior high school in America. The plan did not at first meet with general approval, and there is little wonder that it did not. There was to be no new building in a centrally located part of the city. If there had been such a building just completed and ready for occupancy, doubtless the problem would have been less difficult. Instead, an old grade building had to be used, and even then not all of that. The neighborhood insisted that it be allowed to continue to send its smaller children to this building: consequently only a part could be used for the junior high school classes.

Not only was this building unsuitable for the departmental work of an intermediate high school and only in part usable for that purpose, but seventh and eighth grade children of other neighboring buildings had become so attached to their own schools that they objected to being shifted. This objection was met by allowing such children to decide by classes whether they would attend the one-teacher grades to which they had been accustomed, or go to the junior high school. After the system was once established, however, pupils finishing the sixth grade were required to go to the central intermediate high school buildings. Soon the ninth grade also was retained in these buildings.

So great, however, were the difficulties, so new the plan, and so fundamental was the change, that it became necessary to appeal to the people for a ratification of the scheme. A campaign of enlightenment was undertaken, and dozens of public meetings were held to discuss the matter. Parent-teacher associations, mothers' clubs, neighborhood clubs, and churches became interested in the question. At last favorable resolutions from all these organizations and assemblies were presented to the board of education, and

the six-three-three plan became permanent in Berkeley. There are now several large buildings devoted entirely to the junior high school work.

4. The Los Angeles plan. Supt. E. C. Moore, who had inspired Bunker with enthusiasm for a reorganization of secondary education, was to awaken a similar interest in J. H. Francis. While Mr. Francis, at that time principal of a large polytechnic high school in Los Angeles, was traveling in Europe in 1909, he wrote from Italy a detailed report to Superintendent Moore on his investigations in Europe and advocated the six-three-three plan for the schools of his city. Mr. Francis approached the conception from an entirely different point of view from Mr. Bunker. He was interested in the vocational phase of the question. If boys and girls will drop out of school at fifteen or sixteen years of age, they should get, while in school, some practical information and some technical skill that will help them to earn a living. Good as were the technical, commercial, and applied art courses of the high school, they very largely failed to reach the largest class of boys and girls who would use that type of education, for that class ordinarily leaves school at the end of the eighth or ninth grade.

In the summer of 1910 Mr. Francis was elected superintendent of the city schools of Los Angeles, and at once launched his plans. Influential with his board, he readily got it to embark upon a course of establishing intermediate high schools. These met, of course, the same conservative opposition that had characterized the inauguration of the plan in Berkeley. But Los Angeles was so large and so rapidly growing a community that new school buildings were constantly being built. Several of the new buildings were used as junior high schools. These very attractive

homes for the junior high school at once aroused the enthusiasm of pupils and parents.

In Los Angeles the ninth-grade pupils living in certain sections are permitted to attend high school if they prefer. About 50 per cent elect to go to the high school. Pupils expecting to continue in school through the twelfth grade generally leave the intermediate school at the end of the eighth year; pupils electing vocational or prevocational courses take their ninth-grade work in the junior high school and then leave school and go to work. There is, however, a growing tendency for all pupils to remain their full three years in the lower school, especially now that they can in these three years earn six or seven high school credits as well as complete the work of the seventh and eighth grades. Superintendent Shiels has, during his administration, given great impetus to this movement so that the junior high school in Los Angeles has come to be a decidedly secondary school in character.

5. Work of the National Education Association.

Although the National Education Association started late to interest itself in the work of the junior high school, it has in the last three years given considerable acceleration to the movement. In 1911 there was presented a report on the articulation of high school and college. This opened up such a large number of questions that a commission was appointed to work out a reorganization of secondary education. The commission's preliminary report made in 1913 concerned itself with the subjects then taught in the four-year high school and gave almost no indication of a consciousness of the so-called 6-3-3 movement that had already appeared in several cities. But the 1914 report indicates that the commission had practically become committed to the new plan, saying: "The traditional plan of devoting eight

years to elementary education is rapidly becoming obsolete. . . . Consequently it will be necessary for each committee [the commission was divided into committees] in preparing its report to indicate how its recommendations may be adjusted so as to meet the needs of schools under both plans." In 1916 two committees of this commission reported. [The one on English in the Secondary School advocated a six-year course in English beginning with the seventh grade.] The committee on Social Studies recommended a six-year secondary school program adapted to both the 6-3-3 and the 8-4 plans.

Meanwhile the committee on Economy of Time, under the chairmanship of Superintendent H. B. Wilson, reported in 1913 on several plans for shortening the elementary curriculum. Professor Judd of the committee reported a plan which was being tried out in the University of Chicago training schools whereby the eight years of elementary work were being done in seven years and work of grades nine to fourteen, inclusive, in five years. In 1914 the committee reported that actual progress had been made in formulating plans for economy of time in the various elementary subjects. Significant also was the report of a similar committee of the National Council of the National Education Association which had been working on the problem since 1908. This report recommended the division of educational curricula as follows:

Elementary Education.....	Ages 6 to 12
Secondary Education (2 divisions—4 yrs. and 2 yrs.).....	12 to 18
College	18 to 20
University (graduate and professional)	20 to 24

In 1916, at a meeting of the Department of Superintendence in Detroit occurred two most interesting and far-reach-

ing debates. The first was a debate on the question: *Resolved, That the best organization for American schools is a plan which shall divide these schools into six years of elementary training and six years of secondary training.* The affirmative was upheld by Professor Charles H. Judd, Director of the School of Education, University of Chicago, and the negative by President Carroll G. Pearce, of the Milwaukee State Normal School. With all due regard to the abilities of the negative speaker, the fact that such a well-known educator as Dr. Judd should publicly advocate the junior high school so eloquently and convincingly was epoch making. Hundreds of city superintendents left the convention with the intention of establishing the new plan in their cities. The next day the delegates to this convention of three thousand superintendents were privileged to hear a joint discussion of "The Minimum Essentials *vs.* the Differentiated Course of Study in the Seventh and Eighth Grades," by Doctors Coffman, Bagley, and Snedden. These addresses at Detroit and the very strong paper by Professor Johnston at the New York City gathering in the following summer, beginning, "The junior high school movement is sweeping the country," have brought the subject of this monograph into a position of the greatest prominence in the National Education Association.

6. The junior high school throughout the country. To trace the history of this movement from the time that the first real junior high school was established in Berkeley in 1910 would be like an attempt to count the springing up of mushrooms on a spring morning after a rain. Notable among the cities that have committed themselves to the plan are Houston and Detroit. Two new and beautiful buildings were constructed in the former city to accommodate 1,000 pupils each. In the fall of 1914 all the pupils of the three

grades following the sixth were housed in these splendid homes. Detroit has built five such junior high school buildings at a cost of over half a million dollars. Salt Lake City has organized three large schools of this type. Former Superintendent Brumbaugh recommended to his board that the Philadelphia school system be organized on the 6-6 basis with junior and senior high schools of three years each. The University of Michigan is encouraging the establishment of junior high schools by offering to accept three entrance credits earned in seventh and eighth grades—that is, the first two years of intermediate high school. St. Paul likewise has just adopted the plan, and is constructing a building to accommodate a large junior high school, with one of the largest athletic fields in Minnesota. In that city the seventh, eighth, and ninth grade pupils are called Juniors and the tenth, eleventh, and twelfth graders, Seniors. Lewiston, Idaho, has a well-matured junior high school with a splendid curriculum. It forms one of the two wings of a large central building that also houses the senior high school. There are different principals for the two schools, but the instructors teach in both schools.

By the summer of 1916 almost every state in the Union had one or more of these junior high schools. Reports show them distributed among the several states as follows:

Indiana	24	New Jersey.....	6	Iowa	3
Minnesota	24	Ohio	5	Connecticut	2
North Dakota.....	20	Oklahoma	5	Kentucky	2
Pennsylvania	16	Tennessee	5	Maine	2
California	15	Texas	5	Vermont	2
Kansas	13	Colorado	4	Alabama	1
New York.....	13	Missouri	4	Arizona	1
Illinois	9	Montana	4	Arkansas	1
Massachusetts	8	South Dakota	4	Florida	1
Michigan	8	Utah	4	Georgia	1
Oregon	7	Virginia	4	New Hampshire ..	1
Idaho	6	Wyoming	4	Rhode Island	1
Nebraska	6	Washington	3		

38 STATES HAD 254 JUNIOR HIGH SCHOOLS

The latest available statistics at the end of 1917 showed that 365 school systems, including most of the largest cities, had organized junior high schools on the general plan described in this book. The states of Vermont and Oklahoma are reorganizing their entire school systems to include these new institutions in every city and town. When this work is completed the number of junior high schools in the country will approximate 1,000.

7. Varying plans in operation. The reader will at once see the possibilities of variety. The simplest is the Berkeley system of arranging the seventh, eighth and ninth grades in the lower division, and tenth, eleventh and twelfth grades in the upper division, each grade consuming a year of time. This scheme contains all the points mentioned in Chapter One except the saving of a year of time. The Los Angeles plan attempts to do in three years the work of the seventh, eighth, ninth, and tenth grades, and consequently leaves only two years for the senior high school proper. Detroit and most Eastern cities follow the Berkeley plan. Houston completes the twelve grades in eleven years. Its secondary system might be stated as follows: The seventh, ninth, and tenth grades in the intermediate school; the eleventh and twelfth in the senior high school. The eighth grade does not, and never did exist.

In New York City in 1913 there were 61,262 pupils enrolled in the high school. During that year there had been 20,326 pupils who failed to complete their courses. Of these, over 12,000 were in the first year. The result of this loss of pupils has brought about in that city some radical changes from the former plan.

The intermediate school was introduced, largely to reduce this loss of attendance. It also plans to save a year of time

for the pupils. The sixth, seventh, eighth, and ninth grades are to be grouped into an intermediate school, and the work done in three years. This is to be accomplished by certain modifications in the grammar school curriculum, promotion by studies, and other features that are common to the junior high school.

Practically this same plan exists in Richmond, Virginia, where, however, the nomenclature is different. In Richmond the name "intermediate school" applies to a school in which just the fifth grade is taught. After finishing this intermediate school the pupils pass into the junior high school, which covers the work of the sixth, seventh, eighth, and ninth grades. The work, however, of these four grades is done in three years. This junior high school has most of the characteristics that were described in Chapter One of this book as being essential to such an institution. It seems that in Richmond the purpose of the "intermediate school" is to prepare pupils better for the junior high school. The former, however, does not form any part of the latter. One of the earliest junior high schools established in that city was the Bainbridge School. For a while, at least, the fifth grade was taught under the same roof.

In Fitchburg, Massachusetts, there are maintained intermediate schools which are more or less independent of the high school. The curricula offered in them are, however, largely finishing curricula, although the schools maintain literary courses that lead directly to the senior high school.

The purpose of the Fitchburg intermediate school is to keep children in school and to afford an opportunity to give a semi-vocational education to over-age children. There are similar intermediate schools in Cleveland, Albany, and Rochester. Little attention is given to grading in any of these schools. The thing that counts for entrance is age.

The intermediate schools do not form an essential link in the school curriculum. They aim to deal with special cases, although academic work is given in connection with the industrial work.

Then there is the plan that makes no break in the middle of the secondary curriculum but completes the six upper grades in six or even in five years. 2

Finally, there is the plan adopted in Pomona, California, which is the one that seems to be ideal to the writer. This plan completes the seventh, eighth, ninth and tenth grades in three years, and then devotes four years to the eleventh, twelfth, thirteenth, and fourteenth grades. This normally carries the student to his nineteenth birthday, and gives him a strong taste of college life, vocational education that carries him well on toward maturity, and qualifies him to begin university work where it should begin, with the junior certificate. Such a plan when adopted creates not simply one new institution but brings into life at one and the same time two new institutions, a junior high school and a "senior high school—junior college." In this way the high school is not merely robbed of its first or first and second years, but is abolished altogether as not meeting the highest purposes, and in its place and in the place of the seventh and eighth grades and the junior college appear *two entirely new* institutions profiting by the successes and failures of the schools they displace. 3

CHAPTER THREE

OBJECTIONS TO JUNIOR HIGH SCHOOL ANSWERED

In the general plan of describing the junior high school movement, we have spoken of the conditions that gave rise to the movement and have described its history. In this chapter we shall treat of the obstacles—real and fancied—that have stood in the way of the progress of the movement and the manner in which these obstacles have been, or may be, removed. The first obstacle has been the belief on the part of many educators that the desirable results claimed for the junior high school are obtainable under the 8-4 plan. The second obstacle has been the objection of some parents to the new school arrangement because it caused their children to have to walk farther to attend school. The third obstacle to its success has been the alleged unfavorable effect that it is having upon elementary-school teachers. The fourth obstacle is the difficulty of obtaining college-trained teachers; and the fifth the difficulty of inducing ninth grade pupils to attend a junior high school. A sixth obstacle is the expense of additional buildings, grounds, and equipment. Finally, it is asserted that the conservatism of the public will render the establishment of junior high schools well nigh impossible.

1. The same results obtainable under the old plan.

Some educators maintain that this new institution is a fad and will soon be out of style. They say that all the good things claimed for the 6-3-3 plan can be secured without changing the old general plan and especially without creating a new institution. They say that in many grade schools the work of the seventh and eighth grades is taught depart-

mentally, with the result that pupils are prepared for the departmental work of the high school. They argue that there would be nothing to prevent the course of study of such a school from being enriched by the addition of a foreign language, algebra, and other good things. In such a school the idea of vocation-selection could be carried out as easily as if it were a separate institution.

To these arguments it may be interposed that there is no particular harm in having a new institution. The kindergarten, the night school, summer sessions, continuation classes, and the high school itself were new institutions at one time and can hardly yet be considered old or unchangeably established. Even the public school as a state-supported institution is comparatively new. There can be no serious objection to the junior high school because it is new, or because it adds one more to the number of institutions already existing. As for departmentalizing the seventh and eighth grades in a grade building, it must be admitted by our opponents that this is very difficult in the ordinary grade building where there are no more than two teachers for the two—seventh and eighth—grades. Moreover, the rooms are often dismally large and unadapted to classroom use. Most objectionable is the utter heterogeneity of such a school, with its six-year-olds getting in the way of the strenuously physical adolescents.

As for enriching the curriculum under the old plan, the matter of getting good grade teachers to teach subjects that are really high school branches would be difficult. It is hard enough to get junior high school teachers to venture to teach algebra, Latin, and ancient history to seventh-grade pupils. The natural conservatism of teachers would well-nigh prevent regular grade school teachers from undertaking to teach such immature (?) children the higher (?)

branches. Besides, the grammar school course of study has in many states become a state adoption, so that ambitious cities and towns would find themselves handicapped on every hand if they attempted to try something radically new and different. In California, a progressive state, Berkeley and Los Angeles under the old laws found themselves so hedged about by statutory restraints and state textbook laws that they were prevented from working out new curriculums on a broad basis. We refer to such laws as required the use of state-published textbooks in United States history, geography, arithmetic, etc., in the seventh and eighth grades, and to the law requiring twelve and one-half hours out of the twenty per week to be devoted to the common branches.

Vocation selection could not succeed under the old plan. In the first place there could be little or no election of subjects. A grade school with even four teachers and 160 pupils in the seventh and eighth grades could not offer a large number of subjects. With such a limited number of pupils many classes would be so small that they could not be maintained even if there were seven or eight teachers. Each half grade would contain approximately 40 pupils. Of these the elections as tried out in Pomona run: English, 40 (compulsory); bookkeeping, 25; algebra, 15; ancient history, 8; domestic science, 8; Latin, 8; Spanish, 29; German, 3; manual training, 20; general science, 7. This necessitated two classes in English, two in Spanish, and one in each of the other subjects—a total of twelve classes in the B 7. But in the two grades as a whole, owing to conflicts in the program due to failures, etc., the total number of classes was 51 in solids and five in music, drawing, etc.—56 classes or nine teachers for only 160 pupils! And yet without election of subjects and a wide variety of options no real vocational traits can be discovered.

Finally, the argument against a separate institution for pupils of ages twelve to fifteen leaves out entirely the question of the ambition of adolescent children to lead a life untrammelled and unhampered by the restrictions and repressions incident to the elementary school against which they now chafe with bitterness and which prompts them in large numbers to leave our old-time grade schools.

2. Greater distance of pupils from school. This is usually true when a building that has been used for grade school purposes is taken entirely for junior high school purposes. Superintendent Bunker, of Berkeley, tells of his troubles in this matter. He wished to use a certain grade school building for an intermediate school, the pupils to be drawn from the seventh and eighth grades of several other grammar buildings in the vicinity. The thought was then to fill the rooms of those buildings with the lower grade pupils who had formerly attended the central building now to be used as a junior high school. This plan would necessitate a number of changes in the boundaries of districts; but most objectionable of all changes was that which took the primary children who lived within a stone's throw of the central building they had been accustomed to attend, and required them to walk several blocks to another building. The parents objected to this change, and the matter was adjusted by leaving the smallest tots in the central building, so that only the third, fourth, fifth, and sixth grade youngsters had to walk the greater distance.

Not only did this work hardship on the grade children transferred, but it required the seventh and eighth graders to go much farther to attend school. We may conceive of a group of nine buildings, *A, B, C, D, E, F, G, H, and I*, arranged as they probably would be in a city so that *I* would be in the center of the town, or, if a large city, in the

center of a ward. The other schools would be equi-distant from *I*, so that each occupied the center of a district of, let us say, sixty-four blocks. The whole town, or ward, would appear somewhat as in the diagram:

A	B	C
H	I	D
G	F	E

It is desired to convert *I* into a junior high school, drawing all seventh and eighth grade children from *A*, *B*, *C*, *D*, *E*, *F*, *G*, and *H*, a total of sixteen rooms of children. If each building had sixteen rooms, the six lower grades would probably occupy fourteen rooms in each building. When the change is made, the fourteen rooms full of younger children from school *I* would be distributed among the eight other buildings, filling the two rooms in each building that would be left vacant. The upper-grade children living between buildings *A* and *I*, *B* and *I*, etc., would not be seriously inconvenienced; but those living beyond building *A*, building *B*, etc., would have much farther to go and would feel greatly inconvenienced. At first they would be greatly annoyed, especially in foul weather.

The problem of the smaller children can be solved as it was in Berkeley and other cities, by leaving the very smallest children in *I*; and it can be permanently solved by leaving all the six lower grades in building *I* and then building a new school-house for the junior high school pupils, somewhere near the center of the whole district. The problem of the larger children has no solution; it cannot be avoided, unless the school department provides free transportation for the seventh and eighth grade pupils. However, there is compensation for the longer distance these upper-grade children have to go in the fact that the ninth-grade pupils would not have so far to go as they would if they attended the senior high school, which would be at the center of a much larger district. There would, of course, be compensation in the better schooling and the greater advantages offered by the junior high school to seventh and eighth grade pupils than they had in the grade buildings.

Finally, it may be said that these same problems arose at the time of the creation of high schools. It is within the memory of many who read this book that the high school was conducted on the upper floor of a grade building and was later housed in a building by itself remote from the homes of many students. Nowadays it seems to be the fashion to build new high schools at the edge of town or in the suburbs of a city where plenty of ground can be bought cheaply for agricultural and playground purposes. We hear little complaint of this custom, and we are likely to hear little complaint of the junior high school hardships after the benefits are fully realized.

3. Unfavorable effect upon elementary school teachers. Those who seem to want to find every source of opposition to the junior high school as a distinct institution claim that there is a strong feeling against it among grade teachers. It is alleged that they oppose the plan (a) because

it overworks them and the children in getting the pupils ready for the intermediate high school in six years; that is, that they have to do the eight grades in six years. (b) Seventh and eighth grade teachers unable to secure higher certification are compelled to accept assignment to lower-grade work, for which they are unprepared and unadapted and which is distasteful to them in the extreme. (c) The creation of a new institution diverts funds from the elementary schools, which are already suffering for want of equipment, and this prevents a raising of the salaries of elementary teachers and a consequent raising of the standard of the teaching profession.

In answer to these alleged objections of elementary school teachers it can be shown that (a¹) by elimination of the non-essentials from the elementary curriculum, by reorganization of the work, and by removal of the decidedly over-age pupils to the intermediate high school, neither the pupils nor the teachers will be overworked in preparing for the junior high school in six years. We shall go into this matter in detail in the chapter on "The Effect upon the Elementary Grades Preceding the Junior High School." As the seventh and eighth grade work has heretofore been very largely a repetition of that done in the lower grades, it is absurd to say that this upper-grade work is to be crowded upon the elementary school. Furthermore, the junior high school is to take the children as they come and build upon the preparation already attained, not dictate what that preparation must be. The principal and teachers of the intermediate high school will have no authority to reject any pupil sent to them. They must take all entrants and do the very best for them that is possible.

(b¹) Occasionally, one must admit, a hardship may be worked upon a few teachers by the inauguration of a new

arrangement of work. As a general rule, however, the former seventh and eighth grade teachers have been taken over into the junior high school. Most of the teachers that have chosen this upper-grade work in the past were teachers who had had some college work or who were ambitious enough to attend summer sessions of the universities to broaden their mental horizon. In several cities with which the author is familiar, the upper-grade teachers were given a choice between taking a lower-grade assignment, or preparing for intermediate work. In all cases they were given several years in which to make the adjustment. In Pomona they all elected to prepare for the junior high school work, and none complained that it was a hardship to him. They are thoroughly enjoying the added professional interest and zest that the change has aroused.

(c¹) In answer to the objection raised that the junior high school's support will take from the elementary funds, it may be answered that in California it has had just the opposite effect. In this state the junior high school is supported entirely out of high school funds, which have been increased by entirely new revenue in order to meet this additional burden. The elementary school funds have remained the same as they were before the new law; but with only six grades to support, instead of eight as formerly, the elementary school funds are proving ample. In fact, there is such a surplus that new buildings are being built, better equipment is being bought, and teachers' salaries are being raised.

4. Difficulty of obtaining college-trained teachers.

It is claimed that the authorities have found difficulty in securing college-trained teachers for this new institution. They want high school positions and consider it beneath their dignity to teach the younger pupils. There is, of

course, a real problem here, but by no means an unsolvable one. The problem really arises from a lack of understanding of what junior high school work is, on the part of college graduates who have fitted themselves to teach in high school. They object not so much to teaching younger pupils as to teaching the common school branches. Unless they are familiar with this modern trend in education, they imagine that it is grade school work. They want to teach algebra and geometry, not arithmetic.

Of course they object to the lower salaries; but the matter of salaries is largely determined by the laws of supply and demand. Where there is a large supply of new teachers and few positions in high school open, they are compelled to accept the lower salaries. A survey of the cities will reveal the fact that hundreds of teachers holding high school certificates are teaching in the elementary grades. As a matter of fact, many such teachers learn to like work with the smaller children and do not care to change.

When it comes to a matter of choice, many high-school-certified teachers choose to accept positions in the junior high schools of cities and large towns rather than go into remote districts for strictly high school teaching. This they do in spite of the higher salaries paid in the remote high school districts. And well they might, for the chance of appointment to city senior high schools from the intermediate high schools of the same community is better than from a rural high school. The reason is clear: The superintendent and supervisors come to know the teacher's qualifications better when in the same city than when he is in a remote town or village. Some city boards of education make it a rule that vacancies in the senior high school shall be filled by transfer from the junior high schools.

Nevertheless, it is confidently asserted by the opponents

of the 6-3-3 plan that school authorities will never get *men* to teach in the junior high schools, and that these new schools will be over-feminized. We cannot admit that this will be the case. It is not so much that the elementary schools have paid lower salaries or that men do not like to work with small children that men have been kept from entering the lower-grade work; it has been a matter of supply and of custom. There has been a larger supply of efficient women teachers than of even mediocre men teachers. The result has been that boards have employed the better teachers. The custom once established of employing women in the grades, men have shrunk from competing, and boards have shrunk from breaking the custom.

Now the intermediate high school, as an entirely new institution, starts its career bidding for an equal number of men and women. Men will not regard it as trespassing upon woman's special field of activity; and we may expect young men to seek and secure junior high school positions along with women. The adolescent children need the men teachers as well as the women. With men already employed in these schools in large numbers, young college men will look upon such teaching as affording an attractive career. We predict this with certainty, for we see it already going on.

Finally, both women and men are being taught in training schools to be teachers of boys and girls, and less of subjects. Even the college-educated man or woman will readily see that it is a far nobler occupation to train the youth of the land than to impart information or to add to the sum total of human knowledge by research in the universities. When this becomes their dominating, all-absorbing passion, they will long for the opportunity of coming into contact with the young folks at the very earliest adolescent period.

5. **Difficulty of inducing ninth grade pupils to attend junior high school.** When the intermediate schools were first established in Pomona, the boys and girls who were ready for the ninth grade were given a choice as to whether they would take the next year's work in intermediate school or go on to high school. They were unanimous to go to high school. They explained that they had for several years been looking forward to the time when they could experience all the broader life of the high school, including participation in high school athletics, that they would dislike to have to wait another year.

At the end of another semester the pupils of the class finishing the eighth grade were again permitted to choose what they should do. In this case 20 per cent of the pupils elected to remain in the junior high school; the others chose the high school. Meanwhile there had been a campaign on the part of high school pupils to induce the above class to choose the high school for the ninth grade.

At the end of another semester, the class was required to stay in the intermediate school. There was some complaint, several students dropping out of school rather than remain. But fully 85 per cent of the pupils stayed in school to the end of the ninth grade, entering the senior high school in February, 1917. Several have requested that they be permitted to stay one year more in intermediate high. The next class, though not given a choice, voted unanimously to stay in the junior high school for their ninth-grade work. They entered the senior high school, at the end of the year, with seven credits.

The explanation of the results given above are simple. Pupils accustomed to the old grade system through the eighth grade want to enter high school. Pupils that have been accustomed to the advantages of the junior high school

in their seventh and eighth grades prefer to remain through another year. Many will then be loath to leave, for they will have become attached to their intermediate school. But, if we close the intermediate work with the end of the tenth grade, all the pupils who can will go on to senior high school.

This objection to the junior high school, then, falls down when the pupils become accustomed to the new plan. The large life, the social spirit, loyalty, athletics, interesting subjects of study, attachment to building, excellent and sympathetic teachers, all will combine to make the pupil happy to remain in his junior high school through the ninth and even the tenth grade.

6. Additional expense for buildings, grounds, and equipment. To make a success of a junior high school, it is claimed by its opponents, there must be central grounds provided, a specially designed building constructed, and expensive equipment bought. In a small city of 20,000 inhabitants, where there would be approximately 1,000 pupils in the seventh, eighth, and ninth grades, two such plants would be necessary, in order to serve the community well. If ample grounds were provided in central locations, the cost would be at least \$20,000. Two buildings, each large enough to house 500 students doing departmental work, would cost approximately \$100,000; while the equipment for libraries, laboratories, gymnasiums, desks, etc., could not be provided for much short of \$20,000. In other words, there would be an outlay of \$140,000, for which the city would have to bond itself, all as an additional expense caused by adoption of the 6-3-3 plan.

It must be admitted that in a city that has reached its maximum population and wealth, or in one that is decreasing in both population and wealth, the purchase of grounds

and the erection of two such buildings as described would entail an entirely additional expense upon the community. Such an additional outlay of funds might, however, be justified on the ground that the old buildings would be annually deteriorating, would possibly already have passed beyond use. A new building to take the place of an old one might already be imminently necessary. At any rate, some building in such a stationary community of 20,000 people would be old and dilapidated—possibly one that had been built to accommodate the city's children when there were not more than 500 of them in all. Such a building would be out of date and should be condemned and wrecked.

That this is not random supposition is more than evidenced by the survey recently made of the Denver schools. That survey speaks of a large number of Denver's school buildings as entirely unfit for school use. If a live young community like Colorado's capital contains many buildings that should be condemned, surely a city that has become stationary or that has begun itself to decrease in population would contain at least two buildings unfit for further occupancy. The new buildings needed for junior high schools would therefore not be additional expense, but would be taking the place of outworn structures that would have to be replaced anyhow.

But most of our American cities are growing in population or wealth or both. Others that are not increasing in total population are growing in number of school children. Many of our Western cities that were formerly made up almost entirely of adults now have a normal population of children. In such communities a new school building is needed every few years. Long Beach, California, a city of 40,000 people, has built on an average one school building every year for the past twenty years. This is not at all an

unusual case. In such cities, to construct two or four junior high schools instead of so many ward or grade buildings, would not entail any additional expense whatever. The present ward buildings when relieved of their seventh and eighth grades would be commodious enough to accommodate the normal growth in school population for several years. The junior high school buildings would merely absorb the excess growth of school children, and would be in lieu of grade school buildings.

7. **Conservatism of the public.** The greatest obstacle to the success of the junior high school idea is the conservatism of the public. It has not been difficult to convince educators of the desirability of introducing the plan. But fathers and mothers and the great mass of adults look with disfavor upon changes in our educational system. To the enthusiastic teacher it seems incredible that there are still to be found large numbers of people who regard anything besides the three "r"s as the "frills" of education. There are those who regard with disfavor the high school, industrial education, the kindergarten, playground work, agricultural courses, athletics, college training, dramatics, manual training, printing and newspaper courses, domestic science and art, and commercial education, to say nothing of the newer things that educators regard as essential. It takes years—aye, generations—for these things to get into the blood of a people. It is no wonder that the people look upon the junior high school with apathy and in some cases with actual hostility.

There can be only one answer to this objection; namely, that all new things have been opposed. But by one method or another, great, compelling institutions become established, take root, and grow. In one community a campaign of enlightenment may bring about adoption of the thing desired.

In another community the board of education may establish it by main force, and continue it in existence until opposition ceases. In still another community it may be brought about quietly and without any violent change through a mere alteration of the curriculum. In one state it has been virtually compelled by state legislation giving financial aid to those communities establishing the institution. Occasionally the chamber of commerce or some local philanthropist brings about the change by financial or other assistance.

Finally, the junior high school idea is in the air. Educators are thinking hard about it; universities are offering courses treating of it; and many school administrators have just put it into their school systems. The leaders and advocates of the movement are multiplying rapidly. The public cannot long resist what is proving to be such a strong factor in the proper education of the new generation.

CHAPTER FOUR

EFFECT OF THE JUNIOR HIGH SCHOOL MOVEMENT UPON THE ELEMENTARY GRADES

We have now carried the discussion of the junior high school movement through three of its phases: The causes giving rise to it, its history, and the obstacles to its success. There now remains to be discussed the effect of the movement upon the elementary school grades. Our exposition of those effects will reveal the facts that the foundational subjects will have to be very largely covered in grades I-VI, that kindergarten training will become compulsory, that school attendance will have to be better enforced, that all-year school sessions are already being carried on, that there is existing a movement for increasing greatly the excellence of our teachers, that more emphasis is being placed on teaching pupils how to study, that certain specific changes in the elementary curriculum are being made and others are sure to be made, and that non-essentials in the subjects taught will have to be eliminated.

1. Foundational subjects largely covered in grades I-VI. If secondary school work is to be begun in the first year of the junior high school, then the foundational courses must be completed in the grades preceding it. Of course, this does not mean that the work of eight grades must be compressed into six years. Unfortunately it has been represented to the public that the new system is to bear down heavily upon the children, overcrowding them with study and overtaxing their tender strength. It has been pictured to us that babes and innocent children who should be spending their time in joyful play will be rendered nervous and

prematurely serious by the pitiless taskmasters, trying to do the work of eight grades in six years.

As a matter of fact it never should have required eight years to complete the eight grades of the common schools. The old courses of study, the old branches of study, and in cases the textbooks have been padded and repeated so as to keep the children busy for eight years, when they could have done, without strain, all the really foundational work in six years.

The pre-secondary education of our public schools should provide the pupil with the tools by which cultural and vocational education are to be worked out later. The pupil is to be able to read silently and with rapidity the books on scientific, literary, and historical subjects that will contain the messages and suggestions of secondary education. He is to be able to work things out for himself with the aid of a dictionary only. He is to be capable of obtaining a secondary education if left alone on an island with merely the books relevant to the subjects, a library, including dictionaries and encyclopedias. He is not only to be able to read with ease and facility, but also to write so that others can read the record of his thoughts and so that he himself at a later time can also decipher his writings. This writing will include not only the formation of his letters and other characters, but the spelling of words correctly, the composition of sentences and their punctuation—so that no misunderstanding can ever arise as to what his writings actually mean. Besides being able to express his thoughts on paper, he is to be able to express them clearly in oral speech.

Foundational education must also include facility and accuracy in computations that involve the fundamental operations of arithmetic—addition, subtraction, multiplication, and division—and that involve fractional as well as

whole numbers. In this age of expressing fractional numbers by the decimal system, the pupil should master decimals and possibly percentage in the elementary grades. There are certain other foundational ideas and concepts that should be acquired—such as the place ideas of geography, the fundamental concept of the universe, the historical concept that we are living at the end of a past that stretches back hundreds and thousands of years, the political concept that we are a part of a state governed by regularly constituted authorities, the nature sense that we are related to all creatures in the world of nature, the feeling of physical health and the knowledge of the laws that govern it, and the vocational idea. These are all fundamental. The body and the mind must be trained through physical education and manual training.

That this foundation can be laid in six school years must be patent to an impartial observer. That the physical and mental growth through the progress of advancing age is more fundamental than even the acquisition of knowledge is also patent. The amount of knowledge to be acquired in the elementary school should not retard the child beyond the six or seven years laid down by nature as the time to mature the six-year-old into an adolescent. Fortunately we have data now to show that children can in six years acquire the foundational education described above.

2. Kindergarten preparation required. We hesitate somewhat to use the expression "preparation" in connection with any period of education. The newer conception of education that makes the schooling period not a *preparation* for real life, but real life itself, meets with ready acceptance by the author. The child is as really living as is the mature man. And yet, without denying this truth, can we not regard each period of life as a preparation for all the suc-

ceeding periods? The mind, as well as the body, may be carefully prepared to do certain tasks; or it may be unprepared to do certain tasks. If it is unprepared at this time to do certain tasks, then it may be prepared for those tasks by a certain course of training. In this sense we may speak of the kindergarten training as preparing for the foundational work, the foundational training as preparation for a vocational curriculum, the vocational training as preparation for the pursuit of the particular vocation aimed at. In turn, the practice of that vocation might become a preparation for some other vocation to be pursued later. In this way every course of training enters into the fiber of the man and prepares him for well-rounded mature manhood.

The rapid and persistent growth of kindergartens is resulting in establishing the kindergarten year of training as a regular part of the public school course. In some cities today a parent would no more think of sending his child to the first grade without a year of kindergarten training than most parents would think of sending their children to the second grade without their having had a year of primary grade schooling. The laws may some time make it possible for school authorities to require one year of kindergarten as preparation for the primary class. And unless the child receives at home the training of mind and hand necessary to do first-grade work, the school should require that it be done in a "sub-first" grade. We realize that all the problems connected with kindergarten have not been solved, but it is coming to be generally recognized that the child gets in it something that he needs and something that he does not ordinarily get elsewhere.

It is outside the province of this book to argue for a change in the kindergarten to adapt the work to the needs of the first grade, or to argue for a change

in the primary so that the powers acquired in the the kindergarten will not be dissipated or left undeveloped. It is sufficient to know that these adaptations are being worked out to the great benefit of the children. In the new curriculums the kindergarten training is useful and usable. It becomes the first school grade, taking the child at five years of age. When he becomes proficient, when he has acquired the abilities aimed at, he is promoted to the first primary, which may now be called the second step or grade.

3. **School attendance better enforced.** In section one of this chapter, we outlined the mental and physical development to be required for entrance to the junior high school. This standard is the minimum requirement to be exacted of the normal child having a normal opportunity. It has been tested and found possible of accomplishment in six years, beginning at the age of six. We shall now describe the conditions which would make it easier to accomplish the development in six years. If all these conditions are present, 100 per cent of normal children should reach the junior high school at twelve years of age in 100 per cent mental and physical condition. Practically all children slightly below normal at the beginning of school age should make their grades in the process of these six years of schooling and should enter the junior high school with their first grade classmates. Those above normal or above the average could acquire the knowledge required and the necessary development in six years, even though several of the conditions described in this chapter were lacking.

The first condition is a year, more or less, of kindergarten training as a foundation for the work of the primary. This year of work should constitute Step One of a regular series of seven steps leading to the junior high school. Steps Two to Seven, inclusive, would then include the six years of grade

school work in which the tools should be acquired—tools that will serve to build the superstructure of secondary education as carried on in the schools, or will, in a pinch, so to speak, serve to build a vocational education and a cultural education, while the pupil is earning a livelihood, if the builder has the strength of character necessary.

The second condition is regular school attendance. A large percentage of retardation is brought about by failure to attend school regularly. A day's absence can not easily be made up; a week's absence may so break the continuity of the mental development that the individual will feel the gap through life. The wound may heal, but the scar will be painfully apparent. A month's absence is in many cases fatal: the pupil would do well to repeat the whole semester's work rather than try to struggle through with the handicap. Happy is that pupil who lives in a community where promotions are made every eight or ten weeks; or, better still, perhaps, where Dr. Frederick Burk's anti-lockstep methods prevail. This injury is just as great whether the absence comes all in one large block or is scattered along through the semester a day or a half day at a time. Nor does this interruption in consecutive mental development take account of the injury to the habits of work sustained by the pupil. If anything, this weakening of the habit of continuous application is more injurious to the pupil than is the damage to the continuity of his mental development.

Aside from the loss to the individual, one must consider the loss to society and to the State. Nearly every state in the Union has a compulsory-attendance law, and it may be assumed that the State and society regard a common school education as vital to their interests, else they would not be so insistent on enacting laws rendering it compulsory and

in some cases actually writing it into the constitution. The State, it is said, regards an educated electorate as necessary to the perpetuity of democratic government. Many of the evils that have befallen popular government are traceable to the lack of a common school education on the part of the voters. We may assume, then, that society through the organization of the state is in deadly earnest when it enacts laws compelling parents to send their children to the public schools until those children secure an education.

Regular attendance on the part of every pupil every day that school is in session is essential to the welfare of the individual and of society. Self-interest of the individual demands it; society, with all the authority of organized government, requires it by drastic laws and the exercise of its irresistible police power.

4. An all-year school session. The normal child with a normal opportunity may still find it inconvenient to attend school in certain seasons. Many children find it harmful to their health to brave the winter's severe cold and snow; others have to stay out to help with the planting or with the harvests; while still others need their vacations not in the summer, but in the winter, spring, or fall. Then, there is a large group of children who find the long summer vacation irksome and unprofitable. It is believed by some educators and parents that children would be better off if they could attend school through the year, with short vacations of a week or a fortnight at regular intervals, say at Christmas, Easter, in early July, and in October. The year might be divided into four or more equal terms, and promotions made more frequently than at present.

Suppose that the year were divided into six terms of eight weeks each, and that one week's vacation should be given as indicated above. There would still be a few holidays scat-

tered through the year sufficient to break the monotony. Then let it be provided that four terms' attendance be the minimum required by law. Forty weeks' work might then be equivalent to a grade. This number of weeks' work would be somewhat more than the average at present. While thirty-five or thirty-six is the average for the cities, twenty-seven or twenty-eight is the average for rural districts and smaller towns. If a child in a village school can now complete a grade in twenty-eight weeks, surely forty weeks should be ample anywhere.

The six-grade elementary course could then with ease be completed by the normal child in six years of forty weeks each. The subnormal or the slower pupil might take six years of forty-eight weeks each to do the work. The brightest pupils might possibly do the six grades in six years, some of only thirty-two weeks attendance and others forty weeks, or some of forty-eight weeks and others of sixteen weeks. This would give opportunity for the parents of the brightest pupils to travel with their children. Or pupils, needing the country life, might be sent to a ranch or farm for a few months at a time when the weather would be agreeable. One could multiply indefinitely the advantages to be derived from such a plan.

Some decided advantages in the plan as a whole should be pointed out as bearing upon the success of the six-six, or six-three-three, or six-three-four plan that we have been advocating. We have repeatedly said that it is vital to this plan that children enter upon the secondary course at twelve years of age; that is, at, or immediately before, the beginning of adolescence. It is also much to be desired that all pupils complete the foundational courses of study before they enter the secondary school. Any arrangement that will

contribute to making both of these possible should receive the favorable consideration of educators and the public.

There is the case of the child whose parents move frequently, perhaps from one state to another. These pupils often form a considerable part of our Far-Western pupils. In moving they find it difficult to get an exact adjustment. Many Western schools have an established rule of placing the newcomer in a class at least a half grade below the one which he would have been entitled to enter in his Eastern home. This is a common practice, and has much justification from the point of view of the school teacher and in advantages to the pupil. Ordinarily it takes some time to become adjusted to a new school and a new plan of work. It ought not, however, in all conscience, to take a half year. If the terms are short, say of two months' duration, the pupil will be put back only eight weeks, and these eight weeks he can easily make up in one forty-eight-week school year.

While not essential to the success of the six-year elementary school plan, an all-year school of forty-eight weeks with six promotions to the year, will contribute greatly to making it function properly and adequately.

5. Excellent teachers employed. In the new system of things we must have teachers who are in sympathy with progress even though it clash with their preconceived ideas. For instance, a teacher who has not been teaching percentage in the sixth grade might conceivably set the whole weight of her convictions against succeeding in getting the pupils to grasp the subject in that grade. But most normal-trained teachers are open-minded and glad to try sympathetically any plan that looks toward a more practical education for her pupils. Normal schools have in several cases adapted their organization to meet the needs of an elemen-

tary course of six years. It is important that the co-operation of teacher-training institutions be secured in furthering the success of the six-six plan.

The kindergarten teacher of the future should receive in normal school a general professional training that will include methods in the lower primary grades. She should do some practice teaching in the primary—sufficient to get the point of view of the primary teacher and to understand the needs of the children. Only in this way will she realize what is expected of her in the kindergarten. While this is an age of specialization, it is also an age of co-operation, of doing things by team-work. The teacher of Step One must feel that she is doing a foundation work without which the steps higher up cannot be expected to succeed.

The primary teacher should likewise study in the normal school the methods and aims of the kindergarten. In teaching pupils of Step Two, she should have in mind what has been accomplished in the previous year of the child's life. She should be careful not to bore the pupils with doing the things they have already done; but knowing the faculties that have been trained in the kindergarten, she should give new work to continue the development. Constant association with Step One teachers will keep her fresh in the knowledge of the accomplishments of her pupils. Interchange of teachers may occasionally be for the best. Certainly primary teachers may profit by having the kindergarten teachers come into their rooms to give certain lessons in concentration, motor control, handwork, etc.

All along the line the teachers must adapt themselves and their methods to the new point of view. The uppermost thought must be: We must lead the pupils through the foundational work in six years; we must not be slaves to our textbooks; we must feed the child's mind and body as

fast as its development will permit; we must not withhold what the child is ready for, we must not repeat when repetition will deaden. The motto must be: See to it that the child works up to its full capacity. Anything short of that is wasted time.

6. Teaching how to study. The largest problem is teaching the pupils how to work. In most cases this means teaching them how to study. However, it may be easier to teach other forms of work than study. The same principles are involved: Concentration, overcoming inertia, keeping at the thing, an ever present feeling of progressing in the job, revolving the matter in one's mind, relating it to one's store of information, analyzing the problem, getting the solution, reviewing what has been done. In these days when supervised study is the topic uppermost in the minds of teachers, and with several good books on the subject, school men and women ought to find it an easy matter to think out or work out methods for teaching children how to study and work.

The best time to teach children how to work is in the grades, and before they have formed bad habits. Some one has said that it is worse for the individual to get a lesson in the wrong way than not to try to get it at all. The corollary is that a bad habit once formed is harder to overcome than a good habit is to acquire. At any rate, bad habits of work should be discouraged, and every effort made to help the pupil early to form good habits.

Good methods of work can be learned in the kindergarten. Wasting or scattering one's interests and attention should be prevented. The teacher herself should set a good example. One thing at a time, is a very good rule. The most orderly school room is where the hum of industry is ever present. The teacher must early learn to distinguish disorderly noise

from orderly noise, a vacant look from rapt attention, a mind carelessly passing from one thing to another from a mind with a definite goal in view, accidental success from organized success. No matter how much the teacher may believe in free and undirected work from her pupils, she must understand from the beginning that many children must be led time and time again through the process of doing a piece of work—which is, of course, solving a problem. Originality is a quality decidedly to be developed and encouraged; but ability to work, to study, and to solve problems is of greater importance.

There is not space in this brief section to go into methods of teaching pupils how to study. Nevertheless, it occurs to the writer that the approach to the task may be most easily made through teaching the pupil how to work at some task other than getting a lesson out of a book. Some of our most difficult problems are not propounded to us from the pages of a book. There is fundamentally no difference between these problems: Roping a trunk, reading (remember that reading is getting the thought) a passage of Browning, solving a problem in algebra, sewing a patch on an apron, building a house out of blocks, writing a sentence using the word "cat." But there is a good deal of difference in the ease with which you can teach a child how to do these various tasks. There is less concentration required of a person in working with an object that he can reach all around than with one that is on a flat surface; with the latter than with one that you can neither see nor feel, that exists only in the mind.

Let us illustrate by reference to a study of art. Suppose you wish to bring to a person's mind a concept of a battle. The easiest way would be to take him to an elevation and let him witness a real battle; the next would be to act it

upon a stage; the next to have it represented by statues of men and figures of cannon, etc.; the next would be in bas-relief; the next in painting; and most difficult of all, in written or printed language.

Likewise the approach to study should be first with real things, then with symbols in the order we have mentioned above. Also this is true with the method used in teaching the child to solve problems, to work, to concentrate. The earliest task in the kindergarten is to construct something real, then something that resembles the real, then a picture, finally a verbal description or explanation of the thing constructed. In the same order will he get his thoughts, his ideas of things.

If study is approached in this way, the child will have acquired good habits of study before he reaches the point where he is to get lessons out of a book. When he does reach that point, he will apply the same principles and habits to studying a printed lesson that he has been applying to an object lesson. He will meet with the same success. He will be able to study effectively.

7. Specific changes in the elementary courses of study. Assuming that the subjects will remain the same as in the immediate past, it may be worth while (pending the evaluation of these subjects) to suggest some necessary changes in the curriculum brought about by making the secondary courses start with the completion of the sixth grade. Several foundational subjects that had been delayed until the seventh or eighth grade must be hereafter taught before the seventh grade is reached, and other adjustments will have to be made.

In many schools oral reading from seventh and eighth readers has been carried on in the corresponding grades. Oral reading as a formal subject will close with the end of

the sixth grade. When one considers the small use a person makes of oral reading, the wonder is that it has continued so long to occupy the serious attention of upper-grade pupils. Spelling as a subject occupying a recitation period will, and should, be discontinued before the end of the new elementary course. By careful measurement Ayers has ascertained that sixth-grade pupils can spell correctly 92 per cent of the 975 words that the average intelligent adult uses in writing. One does not necessarily need to know how to spell words that he never writes but uses only in speaking. The eighty-five words that a particular pupil of the sixth grade does not know how to spell correctly should be ascertained in each individual case. That pupil may then learn in ten lessons how to spell the words that he did not know how to spell. What drudgery and loss of time for a pupil to study and recite on words that he has known how to spell for years! Besides, there is still some hope that a sensible form of simplified spelling may come into fashion in the near future.

Geography must be carried lower in the grades, and all the essential information conveyed in our present textbooks must be gathered by the pupil before reaching the seventh grade. This may necessitate the rewriting of our textbooks in more simple language. The large output of easily understood geographical readers that we are at present enjoying will contribute greatly to the success of this new plan. Books of travel, descriptions of customs and manners of foreign people, stories of the industries, interesting accounts of things grown from the soil, bird books and animal books, and pictures that really tell things—all adapted to the understanding of elementary school children—are pouring from the press. God bless the devoted men and women that are toiling ceaselessly to bring things within the comprehension of the little folks!

It is pleasing to note the success that teachers are having in teaching addition and subtraction in the second grade, multiplication and division in the third. The fourth grader masters these operations, memorizes the tables, and passes on to fractions. The fifth and sixth graders with a good foundation in arithmetic do the processes of fractions, decimals, and percentage. True, they cannot untangle the complicated problems often found in textbooks (but never found in actual business); but, if the textbook writers really wish to demonstrate their ingenuity in making up puzzles, let them insert them in books on higher mathematics or in commercial calculuses, books intended to develop logic and profound reasoning faculties. We are not expecting the child to perform all possible operations in the grade school; we wish merely to give the child command of the tools with which to work. Anyhow, it is an injustice to the pupil to make him work out nerve-racking problems by arithmetic, when he is to be shown an easier way later through algebra.

Finally, history (if the biographies and exciting events contained in historical readers can be classed as history) may be begun in earnest in the fifth grade, read and studied. Take any one of the several very effective books now on the market, work through the stories and biographies of the period of discoveries and the colonial period in the first semester, and through the national period in the second semester. The pupil will then have a good grasp of the story of the United States. A good textbook on the background of American history in Europe to the settlement of Virginia could be completed in the first three fourths of the sixth grade. The last one fourth could be spent in studying the settlement and development of the colonies and the causes, events, and immediate results of the Revolution. A year of real national history, including civics, could be re-

quired of first, second, or third year junior high school pupils. This last year's work could be so thoroughly done that senior high school American history could be a fairly analytical study of some short but important period—as the post-Civil War period—or of some important movement or institutional development.

8. Non-essentials in particular subjects eliminated.

It is highly important to the success of the six-year elementary curriculum as well as to the children of our country that the work of eliminating the padding should be prosecuted with vigor. Stripped of the non-essentials, most common school subjects can be mastered in the first six grades without crowding or overworking the pupils. Thanks to several enterprising school men and textbook producers, we now have good sets of "minimum essentials" in nearly all the subjects. Nevertheless, this pruning must go further, and more dead limbs must be cut from the branches.

It seems to the author that geography, history, arithmetic, English composition, manual training, and art need complete revision. What joy it would be to lop off from elementary school geography all the motions of the earth, moon, winds, and currents, also names of insignificant capitals, rivers, capes, bays, and the impossible-to-be-remembered minerals and manufactured articles of the hundred or more states and countries of the world! An excellent eighth-grade teacher confessed to the author that he had to look up very carefully the causes of the seasons, eclipses, tides, winds, and ocean currents every time he came to these subjects in his teaching of geography, and he had been teaching this grade for twelve years! What joy to lop off names and dates of discoverers and explorers that mean nothing to us; names, dates, locations, and misfortunes of all the colonial enterprises; Indian massacres back in New England and

Virginia; the colonial wars; battles, generals, size of armies, maneuvers, terms of surrender; expositions, presidential trips, cabinet officers, fires, floods, and other disasters! What joy to lop off apothecaries' and avoirdupois weights, papering and plastering of imaginary walls, multiplication and addition of denominate numbers, bank and true discount, square and cube root, longitude and time! And so with description and narration, exposition and argument, when the pupils cannot even write complex, compound, or even simple sentences! Then there is the making of hatracks, bootjacks, and bric-a-brac, with planes, vises, and draw knives, when the home will never need the useless product and will never possess a single one of the tools! It would seem better to learn how to sharpen pencils with a jack-knife and to use a screwdriver, a handsaw, and a hammer. Lastly, how much time we waste and what bad habits we form in dabbling in paints, making incongruous and absurd valentines, paper napkins, masks, penwipers, and calendars!

From the foregoing paragraphs it is evident that much courageous, painstaking work is before us, but we must give credit for much that has already been done. A good start has been made; but we must not stop until the task is finished. The junior high school movement is reacting on the elementary school. The time is auspicious, the opportunity is inviting. Where are the daring spirits to blaze the way? They will make mistakes, they will be severely criticized, their plans will have to be reviewed and thoughtfully worked out by practical teachers in the field; but eventually, all credit to those who dare to be pathfinders!

Summary. With this chapter we close our discussion of the junior high school movement. We have analyzed the causes that gave rise to it and that justify its continuance. We have briefly traced its history. We have examined the

objections that have been raised against it. We have discussed the actual and prospective changes in the elementary school necessitated by this movement.

We proceed now to a treatment of the junior high school as a functioning institution.

CHAPTER FIVE

COURSES OF STUDY

It was asserted in the first chapter of this book that four of society's many problems are to be solved, and to some extent are being solved, by the junior high school as an institution. We have tried to give the reader a clear idea of those problems. Later we showed that the rapid adoption of the junior high school by so many cities and towns and its advocacy by so many educators have made its success all but certain. Through all these practical applications the school has remained true to its purposes, although it has not in every case tried to do all that is expected of it. Meanwhile there have arisen many objections, obstacles, and aspersions to which we were compelled to devote a chapter. The objections have been answered, the aspersions refuted, and plans given for removing the obstacles. The reorganization of secondary education and the establishment of a junior high school have necessitated many changes in the elementary schools. Some of these adjustments have already been started and are well under way. For the others we have offered such suggestions as our limited space and the exceeding newness of the problems would permit.

The junior high school is not a panacea for all social and educational ills. For the limited ills set forth we believe that this school will prove, and is to a very considerable extent already proving, a cure. It remains for us, in the chapters that follow, to show how the junior high school acts in operation, how it meets the demands placed upon it. We shall discuss these matters under the head of curriculums, principal and teachers, teaching in the school, administra-

tion, and relations with the higher secondary school. Finally we shall sketch our ideas of an ideal junior high school.

In discussing the subjects to be taught in junior high school we adhere to the terminology as defined by the Committee on College Entrance Requirements. "Program of studies" refers to all the subjects taught in the secondary school without reference to organization of these subjects. A "subject" is a branch of learning separate and distinct in subject-matter, as Latin, algebra, or history. A "course" is the subject-matter of a subject offered within a definite period of time, as first year Latin, second year algebra, ancient history, (since this course by general usage is known to be a definite year unit of high school study). A "curriculum" is any systematic arrangement of courses which extends through a number of years and which leads to a diploma of graduation.

1. **Preliminary considerations.** Two phases of the program of studies demand attention: What subjects are to be taught? When is each course to be taught? In answering the first question, one must bear in mind the psychology of the adolescent student and the effect upon the evolution of society. If a subject does not contribute richly to the development of the boy or girl, or will not serve to advance society, it should be discarded, no matter how much the children may like it or how many teachers have prepared to teach it. The fact that the college or university may require for entrance a certain subject of small value will serve to bolster up that subject for a while; but secondary school authorities should endeavor to have the colleges change their entrance requirements in respect to such a subject and should plan to eliminate it after a reasonable time for adjustment.

Not only must we determine what subjects are to be

taught, but we must also decide when they are to be taught, at what age, in what year of the curriculum. Here it must be kept in mind that many subjects are to be left for the senior high school and junior college or even for the university. Other subjects can be best taught in the junior high school. In considering each individual subject, we shall try to determine to what school it properly belongs and, if to the lower secondary school, to what year.

In making out a curriculum to suit a particular student, it must be decided how many courses he should carry. This will depend upon the capability of the student and upon his needs. Some pupils will be able to carry six courses successfully, but may need only five to complete their plan of work. Others may be able to carry only four, but may need five. In the latter case the course must be adjusted to the boy's capabilities so that he can carry as many courses as he needs. For him much extra material would have to be eliminated. For instance, if the reading of five books a year should be the normal requirement in English, his requirement would have to be reduced to four or to three. Or if *David Copperfield* were the standard, he might substitute *Oliver Twist* or some other shorter and easier novel. On the whole, however, it may be safely predicted that the normal student will be able to carry as many normal courses as he needs.

A decision based upon the experience of several cities that begin the secondary course with the seventh grade indicates that through the intermediate high school age—twelve to fifteen—pupils successfully carry twenty-five recitation hours per week where each lesson is two-thirds the difficulty of a senior high school lesson. In the schools of Pomona, a pupil earns in the first three years of the secondary school an average of two and two-thirds credits per year, in the

next two years (eleventh and twelfth grades) he earns an average of four credits per year, and in the last two years (thirteenth and fourteenth grades), an average of five. If the curriculums for the junior high school were based on this plan, the normal adolescent would be expected to carry successfully five courses, each for one year and a half. A course carried for one year and a half would be equivalent to the same course carried for one year in senior high school, where only four different subjects are taken at one time. Expressed in another way, the senior high school student does as much in one fourth of a year as a junior high school pupil does in one third of a year.

There is also the matter of election of courses. Shall there be a free election of courses by the pupil? or, shall there be certain required courses? If the pupil has an election, how often may he elect? Must he continue an elected course until he finishes it, or may he drop it at the end of a semester and elect another in its place.

We wish to advocate quite a large freedom of election by the pupil under the guidance of parent and teacher or of vocational adviser. One or two courses should be required of every pupil unless he is thorough master of them. The most generally required courses are two years each of physical education and English. Even if these are in general required, it would be unwise to impose them on a student who does not need them. The other four subjects should be elective; but a pupil should be expected to take a course that he needs. If a boy has not mastered the fundamentals of arithmetic, he should be expected to take such a course in junior high school. Hence, we need a wise counselor to help the student in electing subjects and courses.

We should advocate that a pupil be required to take a course until he has completed it or has put on it a reasonable

amount of effort. Here, again, the youth needs a guide and adviser in the principal or parent. Instinctively a pupil wants to drop a course in which he is failing or which he dislikes. He also wants to avoid the subjects taught by the teacher whom he dislikes. In these matters a principal will exercise careful discretion. It is by no means certain that a pupil should be compelled to take a subject with a teacher whom he dislikes. We do not compel our college or university boy to do it; yet he surely could be expected to overcome his prejudice more easily than the early adolescent.

We must not forget that the junior high school is the trying-out school where young people are expected to find themselves. We must, then, be insistent upon exposing the student to as many subjects as possible without allowing him to become fickle or flabby, changeable and always seeking the easiest course.

2. **Physical education.** From the principle set forth in the first chapter it must be evident that the subject of physical education should have a large place in the intermediate high school. The purpose of the course is to develop the body, to make it fit for the uses for which God's plan seems to intend it. Athletics and gymnastics are by no means all there is to this, the subject of paramount importance. Schools should attack this problem in a scientific spirit, with the fullest appreciation of its worth and value to the happiness of the individual pupils, to the improvement of the race, and to the health and morality of society. Looking at the subject in this way, we find that it deserves full discussion at this point.

There is a theoretical or "book" side to physical education. Physiology and hygiene have long had a place in the school curriculum. That place must be enlarged and strengthened. Physiology might well be offered in the sec-

ondary school as a formal subject, independently or in connection with biology. But somewhere in the junior high school pupils should be taught the functions of the organs of the human body, their pathology and hygienic care. In such work the boys and girls should be in separate classes, the boys under a man teacher, the girls under a woman teacher. In this way the right kind of appeal may be made to the young people.

There should be an interesting, instructive, and thoroughly trustworthy textbook. The book selected should be written, not with an idea of frightening boys, but with the serious purpose of informing them on matters pertaining to their health and strength. Science does not bear out the scare-head statements of old physiologists on alcoholic drinks, narcotics, and stimulants, or the still more unreliable twaddle of quacks concerning the results of sexual errors. The plain truth is sufficiently alarming. Boys frequently point to the facts that there are many healthy old men who smoke tobacco and drink liquor, and scientific physiologies must square with these facts.

The physiologies should have something to say about diet, candies, gum chewing, endurance running, cosmetics, self-poisoning, bad air, soiled underwear, children's lunches, over-exercise for girls, greediness, climbing stairs, regular habits of bowels and kidneys, lying in bed in the morning, irregular eating, late parties, thin dresses, care at the monthly periods, incorrect posture in reading, decaying teeth, bicycle riding, tight lacing, tight shoes, high heels, coffee drinking, standing long, straining the vocal cords, abrasing the skin, abuse of the hair, neglect of colds, hard blowing of the nose, lack of sleep, unnecessary exposure of the head to the sun (especially dangerous among light-complexioned people), wet feet, over-study, eyestrain, con-

tagious diseases, mosquitoes and flies, impure food. It will be seen that many of these matters refer especially to girls. It seems to the writer that undue emphasis has heretofore been placed upon dangers to the health of boys, whereas it is equally important that emphasis be placed upon dangers to the girls. Men are by their very nature and by the outdoor active life they lead far more immune to constitutional ailments.

In this connection sanitation and community physiology should form a part of the intermediate course in physical education. The disposal of sewage, the healthfulness of the home, the care of public toilets, the purity of the water supply, the inspection of public markets and groceries, the prevention of factory smoke, the sanitation of bakeries, meat markets, confectioneries, and hotel beds, and the quarantine of contagious diseases are matters that children should study about early in the teens. Closely associated with the prevention of sickness is the improvement of health. Here the selected text should tell of measures to improve the strength and virility of the race. Such measures include a wide variety of public activities, such as the planting of parks in cities; the growing of shrubbery, flower gardens, and lawns about the homes; recreation centers and athletic clubs; public baths; paving and widening of streets, public driveways, bridle paths, promenades, water courses; public excursions to the open country and to the mountains; mountain playgrounds for children and adults; "better babies" campaigns; eugenic marriage campaigns; roof gardens on tenement houses; boys' and girls' camps; compulsory military drill in schools; county and state athletic tournaments; and all other measures that tend to make the race healthier and stronger.

The above courses are to be regarded as theoretical physical culture. Applied physical education aims to do in school all that can be done (1) to keep boys and girls healthy, (2) to restore to health those who are not well, (3) to correct physical deficiencies, (4) to develop muscle and bodily control, (5) to inure the young people to physical labor, (6) to develop moral courage and squareness. No system is complete or even passably satisfactory unless it does all these things well. This is a big program, one not to be carried out by a teacher whose sole qualification is a knowledge of football and a record as a star on a college team. The teacher should excel in a seriousness of purpose and a fullness of plans on how to accomplish all the points given above.

The author does not presume to know how all these things can be done. He does know that they are being done in some cities and that they should be done in all, especially in those with junior high schools, if the next generation and the following generations are to be benefited. There must be gymnasiums, shower baths, playgrounds, equipment and paraphernalia, testing and measuring machines. Above all, there must be a master organizer to plan the work so as to reach every pupil—a person who can also act as the director.

How often should formal exercise be required? For how many years? Should credit be given? How long should each exercise be? Should the exercises be in the morning, afternoon, or after school? May anybody be excused? Can other work be substituted for physical culture? Should dancing be allowed in school? If so, should it be required of children whose parents object to it on moral grounds? Should military training be required? Optional? Should pupils furnish their own suits, or should the school district furnish them? Should girls be permitted to wear silk

stockings in the gymnasium? Should Rugby, American, or soccer football be adopted? Should girls play basketball? Should boys and girls play together? Should girls be directed by men teachers? Should physicians and dentists examine school pupils? Is a woman nurse preferable, especially for girls? These and dozens of other questions must be left to the intelligence of the director. It is not the sphere of this book to discuss them, much less to answer them. Some of the questions, such as those with regard to years in the curriculum and amount of time, must necessarily answer themselves in the very nature of the needs of the individual boy or girl.

3. Manual and sense training. Even a slight study of the psychology of adolescence will reveal the importance of sense awakening in that period. With the natural acuteness of the senses of touch, sight, hearing, smell, and taste, and of muscularity, at pubescence and on to adulthood, the school has a wonderful opportunity to get results from their education. We have spoken in the preceding section of physical education, which is among other things an educator of the muscular sense. We wish in this section to discuss the education of the senses of touch, feeling, sight, and measurement.

In no sense has the traditional manual training developed these senses to the proper extent. For instance, let us take the touch sense alone. There is as much development of this sense in playing a piano or guitar, in writing on a typewriter, in painting or drawing, in kneading bread dough, in molding clay, in writing shorthand, or in sewing and knitting as there is in manual training. But the possibilities are by no means exhausted in all these lines. Take the art of reading with the fingers from raised type. Why confine this method of reading to the blind? Why should it not be

taught in school to all children suffering from eye-strain or defective vision? If such pupils could be taught to read in that way, how much it would save their eyes.

Reading with the fingers is only one of the many possibilities of sense training. Accurate measurement with the eyes is also an undeveloped possibility that could be generally tried. This sense can be developed to the extent of accurately estimating a room's width, the length of cloth or rope, the distance across a field, the height of a tree. To distinguish this sense training from others, we may call it mensuration.

A very useful development of the sight is the recognition of colors and their proper blending. A great deal is done in art along this line; but many boys who do not want art could profit by such an eye training. Color matching or visual harmony could well find a prominent place in a general course on sense training.

Sawing boards straight, joining, planing, shaping, lining, boring holes, properly driving nails, designing and making a piece of furniture—traditional manual training—form only a part of sense training. Certainly the time has come to evaluate the subject of manual training and to work out a richer content for the course. Along with these matters may profitably be included such useful arts as wood sawing and wood splitting, shoe mending, basket making, mat weaving, puttying, paper hanging, plaster mending, calcimining, japalacking, and converting worn-out socks into mittens.

If such a course can be devised and organized with little cost, most superintendents and boards of education will gladly make it a required subject in the junior high school. Leaving the vocational phase of hand work to the senior high school, the course in sense training for boys may be

completed in one and one half years in the intermediate school. As other matter is constantly added to this course, a longer time will have to be provided. Certainly pupils can well afford to spend three semesters on this enriched subject. If confined to traditional manual training, there should be scarcely more than one semester required of boys.

The place of sense training in the junior high school must depend upon the age and development of the boy taking it. If boys enter the intermediate school at twelve years of age, sense training should be placed as late in the curriculum as possible, so that there can be a reasonable certainty that adolescence has well set in before the subject is begun.

4. English. In America we lay great stress on the teaching of the vernacular. In some English-speaking lands the people are not so proud of the mother tongue and not so insistent upon its being spoken with a certain inflection or even upon using standardized words. In some parts of England, for instance, they are prouder of their brogue than of the great universal language; they say that the newspapers and railroad travel will soon enough break down differences in dialects, and consequently they put forth no conscious effort to conform to the standards of good literature and cultivated conversation. In a land as large as America we realize the importance of aiding nature, and our schools become the dynamic factor in universalizing the English language. Other nations go a step further by the creation of academies that speak authoritatively on what is and what is not good Spanish, French, or what-not. In the United States our schools undertake to teach standard English, but each teacher is left to decide for himself what is standard.

English, as a subject to be pursued in the secondary schools, covers a number of branches that were formerly

spoken of as separate subjects. We used to have grammar, spelling, reading, composition, rhetoric, etymology, oral English, literature. Still farther back in the past several of these were sub-divided into two or more subjects. The tendency of late has been to group all these matters under the one head of English. Along with this custom has gone the making of English a required subject throughout the grade school and the high school. (And now have come in very recent years certain additions to the general subject of English, such as debate, public speaking, private speaking, dramatics, and journalism. Many high schools that require four years of English permit pupils to earn additional credits in these extra subjects. It would be possible to earn eight credits of a necessary fifteen for graduation, in the field of English and its related subjects. All these subjects have as their main object the improvement of the students in the vernacular.

This tendency has alarmed conservative school men to such an extent that a reactionary movement has set in to compel English to "keep its place" and not monopolize the curriculum. This reaction has set in just at the time when a strong progressive current in education is sweeping the old subjects off their feet and is threatening to drown those whose heaviness prevents them from swimming. Some of these may be rescued by clinging to a more active, virile subject, and thus may be restored to life after being considered for some time dead. Latin and German have a chance in this way to survive the strong current of modern progressivism. And strangest of all, they may be saved by clinging to their greatest competitor for favor—English. We refer, of course, to making Latin and German part of the English course, to be studied briefly for their value as parents of modern English.

Makers of curriculums for secondary schools are, therefore, finding the four years of high school entirely inadequate for the mastering of the vernacular. The junior high school movement, tending to lengthen the secondary course to seven years stretching from the beginning of the seventh grade to the end of the junior college, offers us a solution of the problem. Pursued as one subject through seven years, English can be made to cover conventional English plus dramatics, journalism, oral English, public speaking and debate, and a semester of backgrounds of English in Rome and in Saxon England.

We arrive at the conclusion that English should be pursued as a subject through the seven years of the secondary school. We believe that it should be made compulsory. But if we argue for making it compulsory, we must allow certain elections of courses. Better still, the wise teacher will give to each pupil what he needs most. Not all by any means need exactly the same things. One boy will require grammar; another will be so correct in speaking and writing that he will not need grammar. Some girl will need dramatics, while another will profit more from debate and argumentation. Suppose the English courses embraced twenty-six semester units as follows: (1) Latin background, (2) Anglo-Saxon background, (3) grammar, (4) spelling and etymology, (5) oral English, (6) composition, (7) heroic narration, (8) heroic poetry, (9) *Merchant of Venice* and *Julius Caesar*, (10) description and narration, (11) exposition and argument, (12) history of English literature to the Romantic Period, (13) Romantic Period to the present day, (14) public speaking, (15) debate, (16) journalism, (17) *Macbeth* and *Hamlet*, (18) the essay, (19) history of American literature, (20) private speaking, (21) dramatics, (22) the drama, (23) applied journalism, (24)

the novel, (25) Shakespeare, (26) current literature. Boy A may need 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 21. Boy B may need 1, 2, 5, 6, 7, 8, 10, 11, 12, 13, 17, 18, 24, 25. Both boys and all other pupils would take English through the seven years.

It now remains to determine which of these courses shall be offered in the junior high school. If certain of these courses are less difficult or simpler than others, they should precede the more difficult. If some are more adapted to the pubescent period, they should be given in the junior high school. We may pick 1, 2, 3, 4 as foundational in character upon which others have to be built. We find that 5 is simpler than 15 or 20; that 6 is simpler than 10, 11, 16, or 23. It is evident that 7 and 8 are adapted to the period of emotional awakening at the beginning of adolescence. We may feel quite sure that 1, 2, 3, 4, 5, 6, 7, and 8 belong to the intermediate school period; although we may entertain some doubt about Anglo-Saxon backgrounds until the course shall have been organized and tried out. Units 9 and 10 are being taught in junior high school with success, and may be left on the borderland, to be taken in junior or senior high school as circumstances dictate.

One more question must be answered. In case a pupil needs 1, 2, 3, 4, 5, 6, 7, and 8—eight semesters of work—how shall he get them in three years? This question is susceptible of just two answers. The most obvious is that he should be permitted to take two units at one time until he shall have worked through all eight. The second answer is, that such a pupil should spend three and one-half or four years in the junior high school. He would enter the senior high school with probably more than eight of the sixteen credits required for entrance to college.

5. Foreign languages. What foreign languages, if any, shall be taught in our secondary schools? Why should any foreign language be taught? If any is taught, where shall it be placed in the curriculum? How much of each language shall be taught? These are questions that are challenging the best thought and the widest investigations of educators.

The range of foreign languages thinkable as subjects for our secondary schools embraces Greek, Latin, German, French, Spanish, Italian, and Russian. These are languages said to have cultural value, disciplinary value, or practical value to Americans. Greek has by common consent been dropped from public secondary schools. The demand for it has been so small that it has been found impracticable to organize classes in it. Russian and Italian, though growing in popularity, may be left out of consideration. Whatever decision is made in the remaining cases will be applicable to these two modern languages if they fulfill the same end. If any foreign languages are to be taught in our secondary schools, they are Latin, German, French, and Spanish.

Why should any foreign language be taught? There is a growing sentiment that no foreign language is of practical value. This is particularly true of German and French. The number of German-speaking people in the United States is diminishing so rapidly that except in sections the language is not widely heard spoken. Furthermore, nearly all German-speaking Americans can speak English sufficiently well for all ordinary purposes; and, if the wide-spread movement of societies for the education of the foreigner continues, the non-English-speaking Germans will shortly be a negligible number. Frenchmen are even more scarce. A questionnaire elicited the fact that few German-taught or French-taught students ever find any use for those languages; and nearly

all returned the reply that in the many years since they had left college, they had *never even had an opportunity to converse in German or French!*

There is also the other angle. If it were granted that German and French are practical languages in America, can a boy acquire in school the ability to speak the language? After two or three years of high school German, how many boys could understand a German conversation, or could carry on conversation in German? The probability is that not one in ten can do it. The same is true of Spanish.

The practical or usable value of a foreign language as taught in our secondary schools is, therefore, very little. The doctrine of formal discipline has been given such body blows that we refuse to defend the foreign languages on the ground of their having disciplinary value superior to other subjects. The culture, the humanitarianism, the broader outlook upon life gotten by two or three years of a foreign language is so doubtful, is so negligible in quantity or quality that we could not justify the taking up of so much of the pupil's time on that ground alone. Certainly it could not weigh in the balance against the narrowing, the deadening effect of hours upon hours spent upon looking up the meaning of words in the lexicon—looking up the meaning of the same word a half-dozen times if it occurs that often on a single page.

The truth is that the foreign languages have been kept in the curriculum because the colleges and universities have required a foreign language for entrance and because the children take a fancy to the idea of getting a smattering of a language not known by everybody. These are unworthy reasons for having any subject in the secondary schools. A more justifiable reason for electing a foreign language is that it is usually taught by an excellent teacher—a teacher

who could teach and inspire boys and girls through the medium of any subject whatsoever.

For the junior high school there is a strong justification for some Latin and possibly for some Old English on the ground that they have an excellent reflex action upon English. Through them the pupil learns to understand the grammar of his own language, he gets a larger insight into the meaning of English words, and he strengthens and extends his English vocabulary. One semester of each would probably be sufficient, especially if they were taught with this end in view.

We reach the conclusion that in some parts of the United States a certain foreign language if mastered may have some practical value; but that on the whole, foreign languages should be dropped from the curriculum of secondary schools; that the process of dropping languages must be done gradually so as to permit colleges and teachers to adjust themselves to the change; and that a semester of Latin, of German, of French, or of Old English may be retained permanently for the value to English. Until foreign languages shall disappear altogether from the secondary course, they should be made optional in the junior high school and should be taken by such pupils only as are compelled to have them to meet college requirements.

6. Mathematics. In an earlier chapter it was seen that boys have strongly outcropping at adolescence the measuring sense which is connected with the observation faculty on the one hand and the reasoning faculty on the other. This is generally interpreted as the age for mathematics, and the boy is usually able to grasp the principles of algebra and geometry and apply them to objective problems. A careful trial of teaching pure mathematics to early adolescents reveals the pupil's lack of ability to solve the problems that

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require an application of the principles of algebra and geometry. The chief difficulty here is that the pupil is unable to unravel the mysterious wording of the problems so as to get his first statement.

Girls often excel in algebra and geometry, sometimes far outstripping the boys of the same class. An investigation of a case of this kind revealed the fact, however, that the girls were somewhat older than the boys and were more than a year advanced in physical maturity. But girls are more variable in their mathematical proclivities. Far more girls are found wanting in ability to grasp algebra and geometry than boys. It is also true that girls do not like mathematics so well as boys do.

In Pomona we have tried a progressive system of extending algebra lower and lower in the grades. It was tried first in the A8 grade, then in the B8, then in the A7, finally in the B7. The most interesting result was obtained in the B8 grade. A B8 class was started in algebra at the same time as a B9. There was no appreciable difference in the character and preparation of the pupils. If anything the ninth grade was more of a "picked" group than the eighth grade—picked in the sense that the poorer children had been eliminated. At the end of one semester the two classes stood together; during the second semester, the most intricate problems being eliminated for the eighth graders, the two classes kept together, reaching quadratics at the same time. The number of intricate problems eliminated, however, did not exceed twenty. Both classes finished the course without one student failing to reach a grade of 75 per cent.

Our course is so arranged that pupils may begin algebra in the B7 grade if they have indicated strength in sixth grade arithmetic; otherwise they take arithmetic in the B7 and begin algebra in the A7 grade. Pupils who do not wish

to take algebra in the B7, may take household accounts through the seventh grade, and bookkeeping through the eighth and ninth grades. If a pupil taking bookkeeping has a change of heart at the end of the A7 or B8 semester, he may start algebra at the beginning of the B8 or at the beginning of the A8 semester. Wherever he begins it early, he spends three semesters on the subject, algebra being one of the five subjects that he carries. There was some doubt in our minds whether the average child could commence algebra at the beginning of the junior high school and complete the subject in one and one-half years. In one of our schools all the children of the beginning seventh grade qualified on the basis of proficiency in arithmetic and have successfully carried algebra. In the other school forty out of sixty qualified for algebra and have successfully carried it. The other twenty made such slow progress in arithmetic that they were not considered ready for algebra at the beginning of the A7 grade.

The conclusion is inevitable that, in a course allowing three semesters for algebra, the beginning of the junior high school is the time to commence the subject. The best two-thirds in arithmetic of the sixth grade will carry algebra without failure; the weak one-third will do better to take up algebra at the same time. Out of a class of thirty poorly-prepared seventh graders, probably twenty will do the algebra satisfactorily. The other ten should probably drop algebra for a semester, coming back to it at the beginning of the eighth grade. All in all, the proportion of failures among seventh graders taking algebra is no greater than among ninth grade high school pupils.

We naturally expect to have geometry taken up by those A8 pupils who have finished algebra. In Pomona we have no data as yet on the success of this plan. In Los Angeles,

however, they have been successful in teaching concrete geometry (under the name of mensuration) to eighth grade pupils. Simple theorems are successfully demonstrated by the classes. In case our plan proves successful, the three years of the junior high school course will be divided into two equal periods—the first period for algebra, the second for plane geometry.

CHAPTER SIX

COURSES OF STUDY (Continued)

1. History and politics. There are a number of considerations making the teaching of history and politics imperative in the junior high school. Among them are the incompleteness of the elementary school course, the growing reasoning powers of adolescents, the desire to be considered grown up, the budding desire to assume the burdens of society, the desire for a voice in government, the love of the heroic. Out of the many possible courses in this field, what shall be taught in the junior secondary period?

The following are the units collated from the published courses of study of half a hundred cities and towns: (1) European backgrounds, (2) colonial period of American history, (3) national period, (4) community civics, (5) state history, (6) early ancient history, (7) late ancient history, (8) medieval history, (9) early modern history, (10) 18th, 19th, and 20th century history, (11) English history to 1700, (12) English history since 1700, (13) advanced American history to 1828, (14) advanced American history since 1828, (15) advanced civics, (16) elementary economics, (17) sociology, (18) problems in American democracy, (19) problems in American democracy, continued, (20) advanced economics, (21) economic and social problems, (22) constitutional history of England, (23) Europe 19th Century, (24) sectional history. If we follow the recommendations of the Committee of Eight, we will assign European backgrounds to the sixth grade, probably carrying the work to the American Revolution in that grade. It must be assumed that in the fifth grade the children have had a narrative and biographical account of American his-

tory through the entire range of white men's existence on this continent. If 1 and 2 have been done in the sixth grade, 3 might occupy the first semester of the junior high school, followed by 4 in the second semester; 5 might occupy the third semester, while 6, 7, and 8—covering the conventional first year high school history—would occupy the fourth, fifth, and sixth semesters of the intermediate high school, leaving Modern European History to the senior high school. In substance the above is a commonly used plan, and would meet the requirements of a junior high school that embraced the seventh, eighth, and ninth grades of one year each. The well-worked out Berkeley plan gives 2 and 3 in the seventh grade, 4 and 5 in the eighth grade, and 6, 7, and 8 in the ninth grade.

The Pomona plan places 1 and 2 in the sixth grade. The other units taken in the six corresponding semesters of junior high school are as follows: unit 3 in first semester; 4 and part of 6 in second semester; the remainder of 6 and all of 7 in third; 8 in fourth; 9 in fifth; 10 in sixth. In this way the conventional two high school years of world history are given in the intermediate school. The senior high school-junior college is then left free to pursue advanced American history and economic, social, and political problems.

How much of this work should be required of all pupils? If there were sufficient time, everyone should be required to take these six semesters of history. As it is, a minimum amount should be fixed—probably two units. If two units only are required, undoubtedly they should be 3 and 4, the last half of American history and all of community civics. If general history is not taken, the student will be greatly handicapped thereafter. However, the youth will have had European backgrounds which in a general way covers world

history. He will also have an opportunity later to take English history, English constitutional history, and Europe in the 19th and 20th centuries. These cover the ground pretty thoroughly. If, however, the school is not organized on the seven-year secondary plan, more pressure should be brought to bear upon the pupil to take world history in the junior high school.

Will the pupil have opportunity to get the things he needs as summarized in the first paragraph of this topic if he does not take general history in the intermediate school? The love of the heroic may be satisfied in heroic fiction and verse; the desire for a voice in government, in student self-government and other student organizations. The other tendencies may be satisfied in debate, public speaking, and church activities. The ripening reason may find development in mathematics, in the sciences, and in English. The results obtainable are not so good as they would be in world history, nor would the outlook upon life be so broadened. Boys especially should be encouraged to take history, not so much because they are future voters but because all through history and civics can the boy express his masculine traits of character. In community civics one gets an understanding of social benefits and obligations, and puts into practice the principles learned.

2. **The sciences.** The investigating inquisitiveness of the adolescent coupled with the awakening senses of sight, hearing, etc., drives the boy inevitably toward science. If he does not get it in school, he finds it outside of school. Nothing can keep the normal adolescent boy from studying nature and nature's laws. The school has wisely taken over the sciences and is endeavoring to assist the young people to get a knowledge of nature by real scientific methods. Not the least benefit to the student is the scientific habit acquired.

The foundation of a vocation may also be laid by studying the underlying scientific principles. Thus science is the basis of cooking, mechanical arts, agriculture, mining, and many other occupations.

The sciences commonly taught in the secondary schools are general science, agriculture, biology, chemistry, zoology, botany, physical geography, and physics. The difficult mathematics of chemistry and physics have forced these subjects into the eleventh and twelfth grades. Zoology and botany have likewise tended toward the maturer years of youth. By common consent physical geography, biology, and elementary agriculture have settled down in the ninth and tenth grades; while general science as a foundation science has until recently occupied the ninth grade and is now tending downward into the eighth and seventh grades.

We have shown in a previous chapter the natural tendency of geography, that is, to merge gradually into history and disappear as a separate subject. After history has effectually swallowed the descriptive and geologic parts of geography, general science finishes the dissolution by absorbing the physical element of geography. Only in rare cases now do we find schools offering courses in physical geography: general science has taken its place in the curriculum.

General science as a teachable subject has not been standardized; it is still in a pliable, yes, plastic condition. And while it is still in this state, it will be easy to adapt it to whatever grade to which it may be assigned. There are textbooks on the market purporting to be intended for fifth grade children. There would be a danger of such a course falling to the level (developmentally) of nature study. It might teach and inspire a love for nature but could scarcely develop the scientific method or embody a group of facts suitable for a foun-

dation upon which to build a science. General science must go far beyond nature study, be a science in fact.

If general science should occupy the last three semesters of the junior high school course, it would not need to differ from the subject as now taught in the first year of high school. It would, indeed, correspond precisely to that age, and such text-books as have been written for ninth grade could be used in the course. The plans outlined, the laboratory manuals, and the laboratory equipment would be the same.

On the other hand, if general science is to occupy the first three semesters of the junior high school, a considerable change in the course, text-book equipment, and manual would have to be made. The pupils could not understand the language of the text; the materials in the laboratory would have to be less complex; and a simpler approach to the subject would have to be made. In the Pomona schools we are trying out this plan after having successfully taught it in the last three semesters of the junior high school. We are using a high school text-book, however. The success of the work is not assured as yet.

Elementary agriculture as a text-book science and as a science requiring no experimental farm is teachable in the intermediate school. It has been taught with success in the ninth grade of high schools, and, as was said in discussing general science, it would not need much change to adapt it to the last three semesters of the junior high school. If, however, general science should have to be taught in the last three semesters of the intermediate school, an unsolved problem would arise as to whether agriculture could be taught successfully, profitably in the first three semesters. It seems upon the face of the question that general science should precede agriculture, but the reverse may become

necessary. Elementary agriculture in the seventh grade would be in danger of falling to the level of school gardening—a subject belonging to the elementary school. It cannot be too much insisted upon that elementary agriculture shall be a science in the true sense. It is decidedly a basic science upon which vocational agriculture may be built; and the teachers should not forget that it is a science as well as an art.

In case the junior high school course includes the tenth grade, biology would probably be offered in the last three semesters. Biology that includes the elements of zoology, botany and physiology would probably fill a demand in the lower secondary school. Many educators urge that a one-semester course in physiology should be required of all. In the preceding chapter we insisted strongly on the teaching of physiology and hygiene in connection with physical education. If pupils were required to elect between general science and biology, one semester of the two courses might be made common to both, and physiology be made the substance of the semester's work. Where physiology and hygiene can be made a part of the course in physical education, biology and general science would then touch but lightly on those matters.

3. Culture subjects. Under this heading we include those subjects that are studied for culture only—those that open new fields for intellectual and emotional enjoyment without any thought of their utilitarian value. It is an open question as to whether the public schools are justified in teaching on public funds subjects that contribute merely to the development of capacity for enjoyment. But the culture subjects have so long been a part of our curricula that they cannot be dropped without disorganizing the school system. Under this head would come the foreign languages,

which have such a fascination for the young people of our country. The ability to utter a few phrases in French thrills the emotions of youths. It is very noticeable, however, that the hard grind necessary to the mastery of a foreign language does not greatly appeal to our young people. There are other culture subjects that produce the same tingle and yet do not involve such deadening drudgery.

(a) **Music.** Most of our young people now arrive at the beginning of adolescence with an ability to read music of considerable difficulty. As music and other culture subjects have a tendency to raise the mind above the sordid and carnal things of life, we may safely assume that they will be taught in the adolescent period as a deterrent if for no other reason. Music is par excellence a culture subject. Classes in vocal music can be taught with inconsiderable expense, the child carrying his instrument around with him. The vocal music of the adolescent school should be free from grinding labor. The joy and inspiration in singing will be sufficient to offset such mental application as may be necessary. Choral singing lends itself to this period best, blending and harmony being necessary to the making of adolescent music. Occasionally one finds a soloist of the "back-fisch" age, but it is very exceptional. Duets and quartets are difficult to produce from among these young people. Boys and girls should hear good music at this age; but should not be surfeited with classical compositions. One easy grand opera should be heard while the children are in junior high school. It will be epoch-making in its effect.

This is the heyday of instrumental music. If possible, the school should own instruments of all kinds to be used by pupils with or without means. The youth cannot well afford to purchase an expensive instrument, which in all probability will be laid aside in a couple of years. While the frenzy lasts,

however, the opportunity should be afforded to learn to play. It will be hard to work instrumental music into a schedule of studies, because much of the teaching must be done by appointment with the instructor. Nevertheless, many schools teach it successfully, and thus help to build up a band and an orchestra of real merit.

The fact that "music hath charm to soothe the savage breast" has wide application in the adolescent period. Many a boy has found solace in music when his growing body seemed aflame for more sensual sensations. Many another boy too anaemic for athletic honors has found himself lionized and happy as a musician in the school band. Besides, there is much healthy physical development in singing or playing for it strengthens the lungs, enlarges the chest, straightens the back, and induces a posture of body conducive to strength and symmetry.

(b) **Art.** Much that has been said for music may be said with equal emphasis for art. Art as a culture study is justified in that it opens up a large field for high emotional enjoyment. Next to harmony of tones, beauty of color and form attracts the adolescent. In art girls find joy earlier than boys. In fact, art thrust upon boys of the adolescent period, may produce a revulsion, rather than an ecstasy, of feeling. A taste for art can frequently be cultivated. Most girls take readily to art: it is an outcropping of budding womanhood, a symptom of adolescence.

In the order of natural development, painting comes first, painting with striking colors and bold contrasts. Soon follow blending of shades and harmony of color. Drawing is more or less a drudgery at first, but the necessity for accuracy of perspective, for correct form, for light and shade soon dawns upon the pubescent girl. Paper and canvas give way to wood, leather work, weaving, metal work, clay-

moulding, and jewelry. A large proportion of girls would take to this work if it were open for election, and no culture is healthier for the girl, compelling, as it does, out-door sketching, work-shop habits, physical exercise, and sense-education. It may be made of practical value, the girl carrying the work into womanhood and the home. Trimming of hats, designing of one's own dresses, draping of curtains, and decorating of the home—all are rendered easier and more successful by a course in art.

At least three semesters of art and freehand drawing should be open to girls and boys in the junior high school.

(c) **Literature.** One phase of this subject has been discussed in connection with English. It is mentioned here again as a culture subject, aside from its bearing on the student's learning to speak and write well in the vernacular. Whenever literature has failed, in the past, to give the boys and girls a love for reading good books, it has been very largely because they have been taught forms of literature far beyond their developmental stage. We have been expecting children of fourteen and fifteen to like books whose cultural appeal is to adults. It is folly to try to get boys and girls interested in philosophical poetry or problem novels. Their intellectual and moral experience is too limited to comprehend the author's meaning. It is idle to attempt to interest early adolescents in Carlyle's *Essay on Burns*, Emerson's and Macaulay's *Essays*, *Macbeth*, *Hamlet*, much of Milton's, Wordsworth's, Browning's, or Tennyson's poetry, to say nothing of Pope, Addison, Ruskin, Shelley, Keats, and Thackeray.

And why try to interest pupils in, to them, such dry reading when we have dozens of writers and hundreds of books graduated to the adolescent mind. Here, too, it must be remembered, boys and girls begin to diverge in their likes

and interests. Girls are fond of Miss Alcott's books, George Eliot, Scott, Whittier, Longfellow, Hawthorne, J. G. Holland, Frances Hodgson Burnett, Paul Leicester Ford, Myrtle Reed, Owen Meredith. Boys like Stevenson, Scott, Cooper, Longfellow, Conan Doyle, Poe (prose), Dickens, Washington Irving, Aldrich. These authors should not be "studied," but merely read. Poetry will have to be read in class or with assigned lessons. As a matter of fact poetry should always be read aloud and in sufficient quantity to tell a story. Heroic poetry should predominate.

Dr. Stanley Hall shows in an interesting diagram that girls reach their quantitative maximum of reading at thirteen and boys a little later. This fact should lead us to conclude that this early adolescent period is our opportunity for introducing young people to good authors. How much shall we expect the boy or girl to read? Hall's investigation shows that each twelve-year-old will read twelve books in a year, and the thirteen-year-old, fifteen books. Let us see what books a girl could read in the two years: *Jo's Boys*, *Little Men*, *Little Women*, *Silas Marner*, *Romola*, *Ivanhoe*, *Kenilworth*, *Snowbound*, *Evangeline*, *Miles Standish*, *Great Stone Face*, *Blithedale Romance*, *Scarlet Letter*, *Bitter Sweet*, *Katrina*, *Little Lord Fountleroy*, *Hon. Peter Stirling*, *Lavendar and Old Lace*, *A Spinner in the Sun*, *Lucile*, and seven others. Boys could read *Treasure Island*, *Ivanhoe*, *Waverly*, *Rob Roy*, *Last of the Mohicans*, *The Pathfinder*, *The Prairie*, *Miles Standish*, *Firm of Girdlestone*, *Hound of the Baskervilles*, *The Great Shadow*, *The Gold Bug*, *Oliver Twist*, *Martin Chuzzlewit*, *Tour of the Prairies*, *Astoria*, *Adventures of Captain Bonneville*, *Prudence Palfrey*, and nine others. One could be quite certain that the boy or girl would find at least one author whom he would want to complete.

This is the period of life when there should be some guidance in reading current literature. There are many magazines whose stories are very wholesome for adolescents; there are others whose stories would be exceedingly harmful to those whose characters are not yet formed. The law ought to step in and prohibit certain story magazines being sold to children under eighteen, for the danger is certainly as great as in the case of cigarettes or liquor. Love stories that are insinuatingly suggestive, adventure stories that arouse the desire to steal or commit semi-criminal pranks have the same demoralizing effect as liquor and tobacco. The school has done a great good in arousing public opinion against the latter: it should commence a legislative campaign against the former.

(d) **Dramatics.** The study of dramatics for its culture value is beginning to book large in the high school. Such a course is carried on along parallel lines. There is the theoretical side of the study, dealing with the history of the stage, the mechanics of drama writing, the elements of the drama, method of producing a play. On the theoretical side comes also the study of certain great type dramas—tragedy, melodrama, romance, comedy, and farce. Such a course in theory is called in the curriculum the drama. The other side might be regarded as the application of the principles of the drama to practice. It would involve the actual work of staging a play and would include making the scenery, stage construction and management, making-up the actors, and acting the play on the stage. Much of the classroom work would be the study of a play to get at the meaning of the words, then the interpretation of that meaning in speech and action. This practical side of the subject might be called dramatics. Both the drama and dramatics contribute to the broadening of the student's field of enjoyment.

The beginning of this subject may well be undertaken in the junior high school, not perhaps as an organized course, but as a school activity. The pupils of this age may well be permitted to attend one good play a year. In all probability their parents will take them to half a dozen poor plays and to dozens of picture-shows. There will well up in the adolescent a desire to act on the stage, and mass action will be wholesome and good for such young folks. A warning should be uttered against choosing a "star" or "leading part" from among intermediate pupils: their heads are so easily "turned" that there is danger of ruining the boy or girl for any more prosaic work.

(e) **History and geography.** From one point of view history and geography may be regarded as cultural subjects. One who learns in school to love the movement of events, descriptions of many lands, and all their attendant concomitants, will have a source of great enjoyment when he grows to adulthood. These joys will not consist entirely in reading history and geography, but in travel, in collecting local historical material, in constructing and reading maps, in visiting industrial plants, and in learning the methods of producing from the soil in places where he happens to sojourn.

(f) **Sciences.** All busy men and women have their avocations which they love and enjoy. Many an office-man finds rest and pleasure in pursuing at home some scientific investigation. It may be chemical experiments, collecting flowers, stuffing birds, inventing mechanical devices, classifying geologic specimens, or testing building materials. It is to provide men and women with such enjoyable avocations that many culture subjects are taught in school. In this sense the sciences may be regarded as culture subjects.

(g) **Manual training.** What has been said of the sciences may be said of what is taught under the broad term of manual training. Dentists worn out with the tedious day's work find recreation at evening in wood-work; physicians, in metal working; lawyers, in electricity; teachers, in basketry, plastering, gas engine construction and repair. In this sense manual training is a culture subject, and, in passing, it may be said that many more boys will use it as an avocation than as a vocation.

4. **Vocational subjects.** For the purpose of this discussion we define a vocational subject as one that is taught chiefly for its contribution to making a student fit for doing the work of an occupation, and is pursued by the student with the same aim. Algebra is not a vocational subject because its main *raison d'être* is not to prepare the youth for engineering (the only occupation in which algebra could be used). Stenography is a vocational subject because the main reason for teaching it is to prepare the pupil for the gainful occupation of a stenographer.

The main vocational lines teachable in the junior high school are homemaking, dressmaking, agriculture, the commercial occupations, and the trades of the artisan. It is not claimed that any one of these occupational courses can be completed in the three years of intermediate school or at the tender age of early adolescence. A good beginning can be made, however—a beginning that will materially shorten the period of apprenticeship or that will lay a good foundation for a finishing course in the same line in the senior high school-junior college.

(a) **Homemaking.** There have been many objections to the boys learning an occupation in the junior high school, the chief being that it forces the boy to choose at too early an age. This objection cannot be levied against homemaking

for girls. Such a large proportion of girls become homemakers that those who do not may be disregarded as being a negligible quantity. No parent could object to his daughter's learning the household arts. It is therefore put first in the list of vocational subjects. (It is not necessary, I think, to point out that manual training does not stand in the same relation to boys that homemaking does to girls. Manual training, as such, is not an occupational course at all; and only a few boys follow a vocation that can be remotely connected up with it. We have pointed out in preceding pages that manual training has its chief value as a training of the senses, and is more closely related to art, music, and drawing than to any purely vocational subject.)

The home-making branches best fitted for early adolescent girls are cooking and sewing. These subjects have a well standardized content and need not be discussed in full in this connection. The chief problem is where to place them in the three-year course. In high school sewing is usually taught in the ninth and cooking in the tenth grade. In some schools the two courses are taught through the two years but on alternate days. It may with assurance be stated, then, that these two subjects should be taught in the last two years of the junior high school, whether it has a three or a four year curriculum.

As many school systems provide sewing one day per week in fifth and sixth grades, and some junior high schools continue sewing on the same scale through the first year of the intermediate curriculum, many girls want a change at the end of that time. There is, on the other hand, no good reason why cooking should not precede sewing as a five-day-a-week course. Therefore, in three-year junior high schools (seventh, eighth, ninth, and tenth grades), cooking may best be taught in the second year and sewing in the third,

it being understood that the work be taken for ninety minutes each day and that credit for one full year of high school work be allowed for each of the two subjects.

(b) **Dressmaking.** Only the very beginnings of a course in dressmaking can be given in junior high school. It would be taught under the name of sewing. No differentiation need be made in sewing as a branch of the general vocational course of home-making from sewing as part of a dressmaking course.

(c) **Agriculture.** We have discussed the subject of elementary agriculture as a science. While it should be taught as a science, and should be adapted somewhat to a class of students who do not have farming in mind as an occupation, its chief *raison d'être* in a public school curriculum is laying the foundation for vocational agriculture in the senior high school-junior college. A valuable product of the course is the vocational guidance result. That is, the course may open to the boy such an enchanting vista in soil cultivation that he may be led to select agriculture as his life-occupation.

Elementary agriculture should make use of a laboratory and propagation house. The pupils must see plants germinate and grow. This objective teaching is especially desirable with pupils of the intermediate school age. The preparation of the soil, the propagation of plants, the cultivation, irrigation, and enrichment of the ground—these are elements of vocational training par excellence. Computation of the costs and profits of farming is also a valuable aid to occupational training as well as to vocational guidance.

(d) **Commercial vocations** include a large number of occupations, only a few of which can be taught directly in the junior high school. The most successful beginnings can be made in preparation for the vocations of stenographer,

typist, bookkeeper, clerk, and merchant. The best vocational results can be obtained where the pupil puts in part of the day in the practical application to business of the principles and facts learned in the school-room. But, the courses are usually planned with the idea of the work being continued by the student in the senior high school. In many cases, however, a finishing commercial course will have to be planned to fill the needs of young people who have to go to work at fifteen or sixteen years of age.

In the regular curriculum provision may be made for the pupil's taking household accounts in the first year, elementary bookkeeping in the second year, and business accounts in the third year. A more conventional course would give commercial arithmetic in the first year and bookkeeping in the second and third years. Of course the courses in commercial work would be elective.

Typing is a very attractive subject to young people. It may be advisable for all the pupils to take lessons on the typewriter until they can all write with ease and rapidity. This sort of work can be done in odd hours and before and after school. But as a vocational course, it must be pursued by the pupil with greater avidity and with more serious purpose. Accuracy and speed must be attained; great skill in variety of work must be acquired; and the mechanism of the machine must be thoroughly understood. These results cannot be secured in less than three semesters' work of at least sixty minutes per day. Ordinarily, the first three semesters of the junior high school course would be the time for typing.

Shorthand appeals to the adolescent instinct for a secret code or language. There is great practical utility in the subject. There is a possibility of doing all our writing with pencil in the shorthand code: it would save time and paper.

As a vocational subject it is of great importance. Commercial accuracy, speed, and readability cannot be acquired in less than three semesters of one hundred and twenty minutes per day. If the pupil is going to work at the end of his junior high school course, he should take his stenography during the last three semesters that he is in school. If the pupil is going to senior high school, his intensive study of shorthand had best be delayed until the last year of his school course.

The principles of clerical work may be learned in connection with bookkeeping, typing, and stenography; pupils may get practice in clerical work through working in the principal's office, and in connection with student body finance and school records. Business principles and practice may be gotten in the same manner, and in the management of student affairs, especially of a co-operative book and supplies store, or of a cafeteria. Work in stores or in the management of a paper route gives some practice in business and clerical work, and is worthy of encouragement if it does not interfere with regular school work.

(e) **Artisan's trades** may be begun in the junior high school in a small way, especially shoemaking, cobbling, plastering, paper-hanging, building, carpentry, cabinet-making, glove-making, corset-making, concrete-mixing, mat-weaving, basketry, pottery, book-binding, printing, tinning, machine-repairing, blacksmithy, plumbing, electric-wiring, sign-painting, upholstering, barbering, "practical"-nursing, laundering, housekeeping, and manicuring. The beginnings of these vocational courses can be gotten in connection with the regular courses described in this and the preceding chapter. The whole physical, nervous, and mental being of the adolescent cries out for these things. Without them the boy or girl becomes stunted and unnatural; with them,

growth is normal, school life becomes real life. These vocational activities are a tonic for a constitution fearfully shaken by the ferment of adolescence going on within.

(f) **Practical arts.** Finally, music, art, dramatics, public speaking, English composition—though taught as culture subjects—become vocational subjects for those students who plan to become musicians, artists, actors, public speakers or writers.

CHAPTER SEVEN

PRINCIPAL AND TEACHERS

1. **Manning the junior high school.** One of the first problems confronting the superintendent who has secured his board's adoption of the six-three-four plan is that of providing a faculty and manager for his junior high school. If he plans to place at once the seventh, eighth, ninth, and tenth grades in the new school, he must secure men and women of unusual tact, interest, and ability. Unless he can use all his former high school faculty in his "senior high school-junior college," he may need to shift several high school teachers to the junior high schools. This may be difficult. Such teachers regard it as a demotion even if they had formerly taught only the lower classmen. However, out of a high school faculty of fifty, there will be a normal resignation of five or six per year. These vacancies may be left unfilled until the enrollment in the "senior high school-junior college" justifies an increase in its faculty up to fifty.

The expense of carrying on a senior high school of two years with forty-five instructors, when the four year high school had only fifty will probably operate to convince the superintendent that it were better to reduce the number of years in the senior high school gradually. A plan similar to the following might be arranged:

1st Half Year of the Experiment	Grades Jr. H. S. 7th and 8th	T'ch'rs. 20	Grades Sr. H. S. 9th, 10th, 11th, 12th	T'ch'rs. 50
2nd Half Year	7, 8, and B9	24	A9, 10, 11, 12	48
3rd Half Year	7, 8, 9	28	10, 11, 12, 13	44
4th Half Year	7, 8, 9, B10	32	A10, 11 12	42
5th Half Year	7, 8, 9, 10	35	11, 12	38
	or, better still			
1st Half Year	7, 8	20	9, 10, 11, 12	50
2nd Half Year	7, 8, B9	24	A9, 10, 11, 12, B13	48
3rd Half Year	7, 8, 9	28	10, 11, 12, 13	46
4th Half Year	7, 8, 9, B10	32	A10, 11, 12, 13, B14	44
5th Half Year	7, 8, 9, 10	35	11, 12, 13, 14	42

In case, however, that grades 7, 8, 9, and 10 are compressed into a three-year course, the junior high schools will not need so many teachers. On the other hand, the greater number of pupils that will stay in school may require a still larger faculty.

The senior high school being taken care of by the natural resignation of teachers, the increase in the faculty of the junior high school will be taken care of by adding new teachers drawn from the universities and teachers' colleges. The nucleus of this teaching force will be the grade teachers that are taken over when the seventh and eighth grades are transferred to the junior high schools. Experience has shown that these women develop into the very best type of junior high school teachers. With further college education secured in summer schools and with a greater breadth of view brought about by the spirit of the new institution, these teachers become the very models for the new additions to the faculties.

2. **The principal.** So much depends upon the principal of the junior high school—an institution so new that there are no precedents by which to go—that a separate paragraph must be devoted to the subject. Unless an unusual woman can be found, the principal should be a man. On account of the war the faculty must for years to come be largely of women, and yet the boys of the adolescent age should come in personal, intimate touch with at least one man. Even the girls should feel the fatherly hand in the guidance of their young lives. The principal should be a man of maturity and of considerable teaching experience. There are two attitudes either of which the principal may assume toward his pupils—that of the firm but sympathetic father or that of the intimate but protecting elder brother. The one he chooses must depend upon his age, experience,

and character. An unmarried principal of thirty-three years or under would scarcely fail to make himself ludicrous in the role of father. The married man of over thirty-three would scarcely make himself less ridiculous in the part of elder brother. But any other attitude must be cautiously avoided, especially that of boyishness, of the gallant, of the suspicious moral guide, of the indifferent employer, of the easy grandfather, or of the indulgent father or brother. An experienced man may mix among the boys, inspiring their respect for his vast accumulation of information, for his bravery and hardy manhood, much as the scoutmaster among the Boy Scouts. Valuable is the principal who can coach the boys in athletics taking active part and showing them how the thing is done. At the very least, he must have a real interest in boys' sports and must be active enough to get out with them to advise, encourage, discuss, and appreciate.

The principal must be a good thinker and a good organizer. He must have ideas on education worked out with the aid of his reading and personal experiences. He must believe in the plan he is called upon to put into practice. He must not regard his present position merely as a stepping stone to a high school principalship. He should be a leader in the perfecting of the junior high school as a functioning institution. He must inspire the confidence of his teachers and of the public. He is not merely an institution manager, a chief clerk, a detective, a police officer, an executioner, a maker of programs, an executive; but he is the leader in school matters, the truest judge of adolescent nature, the one head through which all departments, all classes, all activities are correlated. He must have a vision or an ideal toward which his school is to be led to tend; he must be

tactful in his relations to the elementary schools and to the senior high school. He must be close in the confidence of the superintendent.

3. **The teachers.** What shall be said of the kind of teachers we want for our early adolescent children? For our boys, do we want all women? For our girls, do we want all men? Can we get what we want or what the children ought to have? There seems to be a feeling growing, to the effect that our schools are overfemininized, that we should have strong, manly men for our boys and even for our girls. "Leave it to a board of education composed of men," said a woman candidate for election as a board member, "and we shall soon have only women teachers. We want a few men teachers who will excite the right kind of admiration from both boys and girls." We seem to be getting just now a higher type of men in the profession of teaching. As teachers' salaries rise, the profession will attract more and more young men; as more and more men enter the profession, young men will come to regard it a man's job and will prepare for it.

At present in high school the field seems to be divided by common consent. Boys' physical culture, commercial branches, manual training, the sciences, seem to be men's subjects; English, domestic science and art, Latin, girls' physical culture, and art seem to be women's subjects; while history, mathematics, modern languages, and music seem to be neutral ground occupied jointly by both sexes. On the whole, however, even among the neutral subjects, civics, higher mathematics, Spanish, and band and orchestra music are in most cases taught by men, while European history, algebra, German, French, and vocal music seem to be in women's province.

If this seeming division is carried down into junior high school the proportion will be about three women to one man;

if carried up into junior college, the proportion there will be the reverse. This would fulfill the desire and belief of those who believe that the educational system should start with all women and end with all men teachers. In kindergarten all women and no men; in the elementary schools, 90% women teachers, 10% men (manual, physical teachers, and principals); in the junior high school, 70% women, 30% men; in the senior high school-junior college, 30% women, 70% men; in the universities, colleges, and normal schools, 10% women, 90% men; in the research foundations and experimental stations, practically no women, all men. Whether this is logical or not, it seems as if it might be a safe guide at least when the war is over.

A question that the superintendent must consider is, shall I seek for junior high school, young or old teachers, fresh graduates or teachers of long experience? One superintendent has signified in an article contributed to a professional magazine his attitude. He wants older and more experienced teachers for the early adolescents than for senior high school. He believes that the first year of the secondary course is so important, such a delicate time for the pupil that it would be fatal to leave it to inexperienced teachers. Many will agree with this plan, and it will for the present easily be carried out by having all seventh year work taught by the grade teachers that are taken over from the elementary school. Such new teachers as are added to the corps might be assigned to eighth, ninth, and tenth grade classes.

4. College-trained versus normal-trained teachers.

In nearly all states high school teachers are selected from among college and university graduates, grade teachers from normal school graduates. The result has been that normal schools have devoted their efforts to teaching elementary school methods, management, and problems. The depart-

ments of education in colleges and universities have concentrated their attention on high school methods and problems. The junior high school embraces two grades that were formerly in the jurisdiction of the normal school and one or two that were formerly in the province of university tutelage. Arguments are now offered pro and con as to which institution shall train the junior high school teachers. The university has assumed that it is its work because the junior high is a secondary school in which the high school branches are taught, and because it has the machinery for instructing ninth and tenth grade teachers which may now be extended to seventh and eighth grade teachers without additional effort or equipment, and because the teacher can secure in the university without changing schools all the advanced extensions of the cultural branches he will have to teach. It is argued that the normal schools have become purely professional institutions, and that a person planning to teach in junior high school would have to take his higher academic training in a college or university and then transfer to a normal school for his professional training.

The normal schools, on the other hand, lay the emphasis on the kind of teacher to be produced. They say that the university training tends to make the teacher interested principally in the subject to be taught and not the child, while the normal school studies the child and concentrates upon teaching the child. They argue that they will not need to give anything but professional training, for the teacher-students will come to them with sufficient academic education secured in the junior colleges of the cities and large towns. The normal school will then maintain a course for graduates of the twelfth grade who wish to teach in the elementary schools and a course for graduates of the fourteenth grade who wish to teach in junior high school. In

the latter courses the emphasis would be placed upon study of the adolescent child.

The university asserts that the normal school has become an institution for women only and cites such cases as the San Francisco Normal School with only a dozen men in a school of a thousand women. Such a school could not hope to attract men in adequate numbers for the needs of the many junior high schools. The university is already predominantly a men's school and the proportion of men over women is increasing. A man wanting to become a teacher would be proud to attend university, glad to have the chance to mingle with other men preparing for other professions.

The normal school replies that the pendulum is beginning to swing back, that a reaction has already set in. Once the normal schools had a goodly number of men students, lost them through the university's assumption of the training of high school teachers, and is now beginning to get them back by establishing classes and equipment for the training of teachers of so-called special subjects—manual training, printing, business and clerical work, vocational courses leading to the trades. The training of junior high school teachers will fall in line with this movement.

The question has not been settled. Its solution will largely lie with the superintendents of our cities and towns and will depend upon the kind of teachers they want for their junior high schools.

5. A teachers' college for junior high school teachers. Another attempt to solve the problem presented in section 4, is the establishment of a college designed especially for the training of teachers of both elementary and high schools. Such an institution is Colorado Teachers College at Greeley, which prepares its graduates to teach in both classes of schools. It is a professional school—a normal school, in

fact—but maintains two distinct courses, one for the elementary school teacher, the other for the high school teacher. Its success has been tremendous. Peabody College for Teachers is another such institution. In a state that already maintains several normal schools, one could be singled out to become a college for junior high school teachers. Or, the agricultural college could add the new courses necessary for training teachers, this especially in a state whose single large industry is farming.

There seem to be two distinct movements connected with the university development—one toward centralizing all state-supported professional schools in one university, the other toward grouping the schools in two or three centers. In a small compactly settled state, the former tendency seems to be the stronger; but, in the larger states where there are two or three quite distinct centers of population, the latter tendency seems to prevail. Massachusetts would be an example of the first, where the tendency is to group the professional schools about Harvard; Washington is an example of the latter where the two centers of population, Seattle and Spokane, separated by a high range of mountains and by many miles of space, tend to create two professional school centers. Seattle is the seat of the university, where most of the professional schools are located and where a school of forestry and a school for high school teachers are sure to become powerful. Spokane, on the other hand, has a right to be the center for agricultural education, for the training of elementary teachers, and should expect to become the seat of an institution for training junior high school teachers. California and Texas are states that may be expected to exhibit the two-centers idea. In California San Francisco Bay is the seat of the powerful university and of two large normal schools. Los Angeles, with its million

people, can expect to group about its normal school other state colleges. Here should be located its teachers' college to supply the needs of the junior high schools of the state.

Such a state teachers' college might offer courses that would be extensions of the courses offered in junior high school. In all probability, however, the local junior colleges will be ample to provide sufficient instruction along this line. A teacher who has four years of academic work beyond what he is to teach will have sufficient subject-matter knowledge. What he will then need is a wide knowledge of methods of teaching those subjects, a large professional interest, and practice in teaching under the careful advice and suggestion of a master teacher. The college instructors should be men and women with wide experience in teaching and unusually versatile. They should be capable of meeting any emergency that might arise in an ordinary class-room; they should inspire their pupil-teachers with the greatest desire to teach; they should put their students into possession of numberless plans and ideas connected with the teaching of the subjects to be taught; but above all they should lead those student-teachers to understand adolescent boys and girls, and how to treat the various problems likely to arise. The physiology and psychology of the adolescent should be thoroughly understood by teachers graduating from such an institution.

Such a teachers' college should be so located that a study of boys and girls, practice teaching in junior high schools, and an intimate acquaintance with the chief vocations of the state may be possible to the student-teachers. A large city surrounded by farm lands would be ideal in a state like Iowa. A large city accessible to mines and factories would be ideal for Pennsylvania. It is deplorable that so many state schools have been distributed as political sop to

keep alive communities that would otherwise languish and die. Such a location is decidedly bad for a normal school. We want for our children teachers who are alive and progressive, teachers who have seen the busy world, teachers who are urbane not rustic, teachers who know more than our children and who live in the twentieth century. For our own rural and village schools we want teachers who know farm activities; for manufacturing cities we want teachers who can explain things to the children in the terms used in the industries; for mining camp towns we want teachers who understand the hearts that beat under the rough exterior of miners. Finally, the vocational life of a community re-acts upon the schools, especially its secondary schools, and vocational or pre-vocational courses must book large in determining the tone of the junior high school.

6. An organization of junior high school teachers.

Nothing will contribute so much to the high character of the junior high school teaching body as an institute devoted to their interests. A convention of all such teachers within a large city or within a county embracing several communities should be held three or four times a year, perhaps every month. At this institute well prepared programs should be provided in which wide discussion may be given to their problems. There are so many questions unsettled as yet that such a convention could scarcely fail to find a plethora of interesting and valuable subjects. Organization, purpose, courses of study, methods of teaching, grades and promotion, textbooks, relationship to the lower and higher schools, student-government, student activities, records and files, finance, part-time pupils, supervised study, length of periods, length of school year, frequency of promotion, making the transition from the grades easy and pleasant—these and a

hundred other subjects might well be discussed to the great profit of all teachers concerned.

During the year and as often as possible, conferences should be held among the principals, of junior high schools, or among the teachers of a certain subject, or among teachers of the new pupils, or among teachers of special pupils. These smaller committees concentrating upon limited subjects of interest will be able to work out very definite plans. A committee of five or ten members, each member representing a distinct community or section or school, will find itself suited to doing definite things, settling definite questions. In this way there will come to be a standard tending to uniformity among the schools. The distinct problems of each school may be relied upon to offer opportunity for sufficient originality and initiative.

Teachers' organizations are subject to some dangers, temptations that, if yielded to, may discredit them before the world. One of these temptations is to use their strength for selfish purposes. It may be to raise salaries, secure shorter hours of work, exclude outsiders from positions, restrict a line of work to one sex, to unmarried persons, or to graduates of some one institution. Nothing injures the profession more than selfish aims of teachers' clubs. Sometimes these clubs are secret in their meetings and in their operations. A suspected organization of graduates of a certain state university to secure all the best positions in the Philippine service resulted in a deterioration of the *esprit de corps* of the excellent body of Americans teaching in the Islands. Nothing so discourages a worker as the feeling that promotion will be determined not by merit but by membership in some organization organized to promote the selfish interests of its members.

Junior high school teachers should be represented in state and national educational associations; and a prominent place in the programs of the annual meetings should be secured. This new institution must become national; it meets a universal need, but cannot render its best service unless the widely scattered schools come together in a single purpose.

7. Literature on the junior high school. The output of literature on the six-six plan is already considerable, but chiefly in the form of contributions to educational magazines. One has to subscribe for a large number of such publications in order to get such information as has been published. Some school book publishing house would do great service to the profession if all these articles could be collected and printed in book form, filling probably two or three volumes. Permission to reprint this material could, very likely, be easily obtained from the authors and publishers. In this way every school could possess a source book on the junior high school idea and plan that would be of great value to teachers.

But there is need for much more material on the subject. There is need for concise descriptions of the actual experiences of school superintendents in getting the plan adopted by the board and approved by the people. Such a monograph as Superintendent Bunker's *Reorganization of Secondary Education* is of the very greatest value, and especially the chapters that tell of his actual experiences in Berkeley in working out his curricula and in making a go of the plan. A volume devoted to Superintendent Francis' experiences in Los Angeles, another to Superintendent Chadsey's experience in Detroit, and still another to Superintendent Horn's work in Houston would prove of large value. Such an enterprise would be welcomed by thousands of teachers, and school administrators. Books of this kind

should be minute and personal, describing actual conditions that prevailed, and giving the success and difficulties in the inauguration of the scheme step by step.

Then we need books or exhaustive articles written by principals of junior high schools the country over on the detailed work of their offices, of the establishment and building up of their schools, of the kind of teachers they find best suited to the teaching of adolescents, of the attitude of the pupils themselves toward the school and toward the new plan, of the reaction on the community. We need pages and pages of statistics that are unflinchingly accurate and that really tell us something about the number of young people saved to the higher schools, the reduction of retardation, the raising or lowering of grades, the effect of the various new studies upon the pupils, the logical place of certain studies in the curricula, the length of the school day, the success of supervised study, the hundred other questions that are uppermost in our minds. We want these statistics in detail first; then we want the superintendent and principals to draw inferences from those statistics. We want to know their interpretation of why the figures are so and so. We want the local coloring, even the personal equation which is always present in every group of statistics, and is of immeasurable value. We are not so much interested in proving our point in all this, as in ascertaining the truth. Lincoln's attitude should be ours. We are not concerned so much as to whether God is on our side as we are to know whether in this matter we are on God's side.

Finally, we want to hear from the teachers on the many questions that they alone can answer. What do they think about the textbooks? What are their experiences in adapting the high school subjects to early adolescents? What is the re-action upon them of the longer school day, of the

all-year school term? What difficulties do they encounter in getting at various pupils? With what classes do they like best to work? In their actual experiences do they find some children "born short?" What methods and plans do they use in teaching this subject or that?—in teaching children how to study?—in directing religious education?—in helping adolescents to acquire proper moral standards? What is the effect of teaching in junior high school upon men and women? Does it keep them sweet and human or tend to make them other-worldly? What is its effect upon the marriageability of women?—men? Is this last question of any value to the race?—to society?—to the success of the junior high school plan?—to the pupils that come under the influence of such teachers?

It may be seen that we are only at the beginning of a period of flood—a deluge of books, pamphlets and magazine articles dealing with the problems of the junior high school. It will be well for the cause if the writers of these publications have originality and some literary ability. It is so much easier to get a pamphlet read if it be made easy reading. Nevertheless, a lack of literary grace should not deter any teacher from setting her experiences and best thoughts down in writing. Not all of the half-million teachers in America will read these writings. No one has time to read all the educational publications. Nevertheless there is a growing tendency for teachers to read professional books and magazines more widely. Some school superintendents require a certain amount of educational reading each year, say one book on general professional subjects, one book on the special field in which the teacher is working, and twenty-five magazine articles or pamphlets dealing with child-study or methods of teaching. Such a requirement is

not burdensome, and in many cases is far below what the teacher voluntarily does.

Just one more word along this line—that may be relevant or irrelevant. Public school administrators—the men that are actually doing things—are letting college professors get ahead of them in the matter of writing books. It is high time we were hearing from the men and women in the field! Of course we are grateful to the college professors for publishing their theories and their investigations. We would not have them stop. They should even do more publishing. But so also should superintendents, principals and teachers. What a travesty on life to find in *Who's Who* the name of a mediocre professor in a small western university, and not the mention of the name of a certain school superintendent of a city of half a million people—a man who has effected a revolution in education! Again, casually looking over a list of the hundred contributors to a certain one of the five volumes of the best encyclopedia of education printed in America, we find not a single public school superintendent or principal! Imagine an encyclopedia of medicine written by a hundred men with not one of them a practising physician or surgeon!

8. Heads of departments. The matter of creating heads of departments in high schools has not met with universal approval. In large schools where a department might have eight or ten teachers, the advantages of having a head teacher are obvious. There are also some arguments against the plan—it removes the principal too far from the teacher; it converts the principal into a mere business manager; it departmentalizes rather than humanizes the teaching; it robs the teacher of his individual responsibility in matters of selecting textbooks and planning his work. In high schools with fewer than thirty teachers in all, the plan has even less

to commend it. If a head has only one or two assistants, there is little excuse for his existence. In such a school the principal may well attend to the actual supervising of teaching. A moderate-salaried clerk will relieve him of the clerical work of his office. In some high schools of fewer than thirty teachers, there are often heads of departments with no assistant teachers. In these smaller schools the practice of having heads often becomes a mere excuse for paying one teacher more than another, or of rewarding a meritorious teacher by giving him a high-sounding title. If this is all there is to it, the end may be accomplished in a more creditable way.

Shall there, then, be heads of departments in the junior high school? If such a school had two thousand pupils and a hundred teachers, there might be some reason for it. But even then the danger of making the instructors teachers of subjects rather than of children would be a strong argument against it. As we are committed to the advocacy of the small junior high school with a faculty not to exceed thirty or forty teachers, we cannot regard the practice of creating head teachers in such schools as anything but pernicious, with no good effects and many bad ones.

It has been suggested by an able thinker and a capable administrator that the head of a department in the senior high school extend his authority over the teachers of those subjects in the junior school. With great deference to the opinions of this administrator, we cannot concur in this advice. The junior high school must be independent, not dominated by the school above it. Moreover the tendency in the senior high school is toward strict departmentalization, toward making the subject-matter the important thing. Any policy that would tend to give the lower school such a tendency would be harmful. Finally, the

teacher in the lower school will teach in two or more fields. A teacher would probably teach several classes of English and several of history. If subject to a head in the higher school, he would have a divided allegiance that would not be for the happiest results. Such a plan would defeat the policy of closely correlating the subjects in the junior high school.

CHAPTER EIGHT

TEACHING IN JUNIOR HIGH SCHOOL

1. **Aims and purposes.** In a most instructive book on methods of teaching in high school, Professor Parker, of The University of Chicago, gives as the ultimate aims of teaching in secondary schools the endowing of students with social efficiency, good will, and capacity for innocent enjoyment. Social efficiency embraces economic, domestic, and civic efficiency. Putting it in another way, the aims of secondary education are efficiency, morality, and culture.

As the proximate or immediate aims of teaching in the junior high school, we shall give the following: (a) The acquisition of habits of industry; (b) the development of sense perception; (c) acquisition of motor skill; (d) health and physical development; (e) acquisition of valuable information; (f) development of the faculties of reasoning, retentiveness, alertness, and quickness; (g) acquisition of skill in expression; (h) the development of a liking for clean, wholesome pleasures; (i) and the endowment of boys and girls with a deep sense of the purposefulness of their lives. Some of these purposes of educating the young are best taught through certain subjects; others, through other subjects. Each teacher will ponder over this matter thoroughly. If he finds that the subject which he is assigned to teach lacks in the qualities to accomplish the desired aims, or if he finds that his subject is anti-educational in its influence upon pupils, he should in all conscience refuse to teach it. Surely no superintendent would compel a teacher to teach a subject contrary to the conscience of the teacher.

Before proceeding to a further discussion of methods of teaching the various subjects so as to accomplish the results

given above, some attention must be given to the mechanics of teaching, which will be treated under the headings of the Teacher, the Class-room, Textbooks, Libraries and Laboratories.

2. The teacher. The teacher must be introspective. Before beginning to teach he should get acquainted with himself, make an inventory of himself. He might address a questionnaire to himself, the questions running somewhat as follows:

Am I going to teach for the money there is in it?

Do I like adolescent boys and girls?

Do I understand adolescents? (If so, make a brief inventory of the principal physical and mental characteristics of (a) the adolescent boy, (b) the adolescent girl.) Do I really love to teach children?—or is it the subject, that I love to teach?

Do I simply know the subject-matter of the subject?—or do I appreciate the large, vital purpose of that subject?

Have I thought out what things touching the subject should be taught, and what omitted?

What should be the effect of my teaching of this subject upon the pupils of my class?

If all teachers teach this subject as I teach it, what will be the effect upon society and upon the human race?

Are my physical, mental, and moral qualities such as will set a good example for my pupils?

Am I familiar with a large enough number of methods of teaching that I can vary my teaching when I see that I am not getting right results?

The teacher should be able to answer all of these questions satisfactorily.

Then the teacher should have an eye to external appearances. He is to be before his class every day for several

months; his appearance and actions will have a great effect upon his pupils. Dr. Hall cites a case of several brothers living in an interior town wanting to go to sea, one after the other. This desire was considered unaccountable until it was learned that a picture of a fine ship at sea had hung in the bedroom of these boys during their years of adolescence. How much more will a human, living teacher effect those who look at him day after day?

The teacher in the junior high school might well take an inventory of his appearance by asking: Am I in as good health as I can be? Am I vigorous, active, alert? Do I keep my body well-groomed? Do I dress befittingly? Do my movements betray purposefulness? How do I act when I am unconscious of what I am doing? Do I have any odd or disgusting habits that bob up when I am off guard? Am I stiff and formal, or, am I informal and familiar? Do I act as if I am lazy, careless, slovenly, hot-tempered, sarcastic, conceited, humble, over-bearing? Do I act as if I would countenance cheating, flirting, inattention, slothfulness, familiarity? Am I noisy and blustering? Is my voice loud, harsh, whining, or lacking in strength? Do I hear and see perfectly? Do I show weariness readily? Do I display anger and irritability quickly? Does my lip curl in scorn without due provocation? Do my appearance and actions indicate that I have been beaten in the race of life?—or that I regard teaching as the most desirable of careers?

While the class will size up the teacher, the teacher must not neglect to size up his class, to know his pupils. Some teachers seem never to know but a few of their pupils. Even after several months' teaching them, they do not recognize the pupils outside of the class. It is highly desirable that a teacher should know each pupil, know the pupil's other activities, home influences, and standing with his associates.

For purposes of this kind, a teacher could well afford to keep a private card system on which to note his impressions of the various pupils. In this way the teacher will come to focus his attention upon the children more than upon the subject he is teaching. By noting the impressions, gradually the card will be filled out with valuable data. Teachers may then consult among themselves about the pupil, and compare each other's experiences. A principal could readily check up the teacher's attitude toward teaching by looking over the notes on the cards. Warning, however, must be offered against becoming too minute in analyzing the pupils. There is danger that the teacher will come to regard them as so many pawns upon the chessboard, will come to regard them as something apart from himself, detached, inhuman. The teacher must not become merely an experimenting psychologist; he must be warm in his sympathetic relation to his pupils.

The teacher must prepare lesson-plans. No matter how well a teacher may know his subject, he cannot afford to go before his class without knowing just what he wants to bring out in teaching the lesson before him. Each lesson must be a unit, must aim to accomplish some definite object. The lessons day by day must proceed toward some realizable goal; and both pupils and teachers must feel that they are making progress. In order that the pupils may realize that each day's work is a step toward the accomplishment of the whole task, the teacher must have the whole course mapped out. This course-mapping should be done before the term begins so that no time will be lost. If the teacher has never before taught the course, he should make a general plan at the beginning of the term, a more definite plan at the beginning of each week, and an exact outline each day. If this arrangement is carried out, it will not take more than

fifteen or twenty minutes each day for the teacher to lay out the lesson. He will then have an abundance of time to assemble all the tools necessary for the successful conduct of the recitation. Without such systematic preparation, the teacher's work is apt to be unsatisfactory.

3. **The class-room.** The following matters connected with the class-room need careful attention: Size, ventilation, heating, light, seating, conveniences, inlet and exit, acoustics.

A small room where the pupils are cramped for space is an abomination; a large room with great distances and unused spaces is barn-like. Assuming the number in the class to be thirty, a room devoted to class recitation should have from 9,000 to 12,000 cubic feet of space. An extremely high ceiling is not desirable; fifteen feet is high enough. Such a room would have from 600 to 800 square feet of floor space. This means a room approximately 24x25 or 25x32. These dimensions may be regarded as the minimum and maximum. A shop-room for manual training of this size would accommodate about sixteen pupils at benches. A gymnasium for forty pupils should have floor space of at least 2,160 square feet. A cooking room for twenty girls should contain at least 800 square feet of floor. A sewing room should be the size of a manual training shop. A class-room suited for laboratory demonstration or experiment should contain approximately 200 square feet of floor space more than the specification for classes.

Ventilation may be by forced circulation of air, driven by fans through air shafts. In such a case the in-take should be located where the air from outdoors may be secured in purity; should then be passed through a spray wash; heated; and driven by fans to the various rooms in sufficient volume completely to change the air of a room every fifteen

minutes. The air currents should be tested and measured frequently so as to be sure that the ventilation is perfect. The bad air is forced by the pressure of in-coming air to pass out through a shaft rising to the top of the building. To facilitate this rise, the bad-air shaft may run up through a larger shaft in whose outer chamber passes the hot smoke or fumes from the furnace.

The heating of a room may most properly be done by the system described in the preceding paragraph. The washed air is heated by passing over a furnace-heated surface, or in a chamber-oven. The heating of air has a tendency to dry it; but the air is saturated with moisture when it passes through the spray wash. There are many other heating devices—steam, hot-water, gas-radiators, and electric radiators. They are said to be very satisfactory.

The lighting of a room is from windows, from sky-lights, from electric lamps, or from concealed lights. While the last is best for the eyes, it is probably impracticable for school lighting. Sky-lights should be used as the last resort. The lighting from windows must be carefully controlled. The windows should be placed all on one side of the room and at the pupils' left. It is better if no window is farther forward than the front pupils' desks. Cross-lights are to be absolutely prevented, also lights that the children have to face. Glaring lights are bad not only for the eyes of children but also for the health of all white people. Dark green, brown, or yellow shades are best, depending somewhat upon the amount of light needed.

The seating is of considerable importance. If stationary desks are used, they should be adjustable so that each pupil may have his desk and seat at the proper height for him. The seats should be arranged in rows the long-way of the room. There should be considerable distance—at least seven

feet—between the front desks and the front wall of the room. Better still, however, are the movable desks, that may be grouped in any way to serve the purpose of the recitation. They may be grouped close about the teacher's desk, or turned so as to give opportunity to see a demonstration at any part of the blackboard. They may even be removed from the room, giving space for physical culture, play, laboratory exercises, or other work.

The acoustic properties of a class-room must be carefully adjusted. Nothing is so conducive to disorder, misunderstanding, and downright distress as poor acoustics. It should be that every child in the class-room may hear every word of the other pupils and of the teacher without the least straining. Of course, nothing can take the place of alert attention and interest. But a pupil cannot be expected to give close attention when he cannot hear well what is said. If the acoustics are now poor in the class-room, padding the walls or stretching wires from front to back of room will help matters. The teacher will do well to study his class-room, test the acoustics, and, if anything wrong is found, study the principles of the subject and apply the remedies.

Every recitation room, gymnasium, and study-room should be provided with conveniences suitable to the subjects taught. Shelves for books, cases for supplies, blackboards, globes, electric lights, wall-maps, suitable floors, closets, dictionary racks, teacher's desk, filing cases for papers, cards. If the room is not already provided with these and other necessary conveniences, the teacher should see to it that they are secured or make them himself. The teacher as well as the school will be judged by the business-like arrangement of the class-room. The very appearance of the

room will be an important factor in the pupil's attitude toward the teacher and his own work.

Finally, a word should be said about the entrance-way into the room and the means of egress from the room. Each class-room should have two doors for convenience as well as for safety. Pupils should enter by one door and leave the room by the other. That door is best, however, that swings both in and out. The doors should have automatic, noiseless closing devices. The doors should be kept locked when the teacher is out of the room; but a slit in the door for depositing papers, like a letter box, should be provided. The glass in doors should not be so transparent that persons walking in the halls will attract the attention of the class in the room.

It would be well if every teacher could be provided with a private study or consultation room adjoining his class-room. Such an office would give him privacy, and would permit pupils to consult with a teacher without attracting attention or disturbing others. Such an office would permit the teacher to work in the building after recitation hours when the janitor is sweeping his class-room.

4. High school textbooks not adapted to junior high school. Although a subject formerly pursued in the ninth grade may be more profitably placed in the seventh grade, it is true that the same textbook cannot to best advantage be used. As a matter of fact there is a maturing of mind and body that goes on with increase of age irrespective of the training they get in or out of school. This fact is all important when we come to consider the books through which we expect to teach the various subjects. The last few years have seen an appreciation of this fact in the large output of books adapted to small children from adult originals. Take the fairly complete story of Robinson Crusoe now

written for boys of eight years of age. The original is hard reading for a mature mind; it was impossible to the youngster who would appreciate it most. Dozens of stories have recently been rendered into child language to the enrichment of our children's minds, to their enjoyment, and, incidentally, to the financial profit of the editor that did the rewriting.

On the other hand there are many textbooks and classics used in high school that are too simple to exercise properly the mental powers of such mature boys and girls. We all know of several that have actually been finding their way down the grades toward the place where they belong. We have in mind such classics as *Gulliver's Travels*, *Snow Bound*, and *Last of the Mohicans*. These were formerly taught in the tenth grade, and then found their way into the ninth. They were gradually dropped from first one, then another high school curriculum, only to bob up in the eighth grade. They are now beginning to find a place in the first year of the intermediate school. We know of one beginner's Latin text, one English composition book, one textbooks in economics, and one in general science that were written for certain grades in the high school. They have all been dropped down a grade or two, or have been discarded as too immature. In history this is almost universally true of high school textbooks on American history.

Sometimes authors have over-shot the mark. This has been especially true of college professors who have written textbooks for high school. One could almost wish that there could be a law compelling college professors to teach their books to the classes for which the books are intended by their authors. Rare is that university teacher, who, never having taught ninth grade pupils, can yet write a

textbook fitted to the comprehension of young people of that age.

It is not sufficient that the language of textbooks now in use be simplified for the junior high schools. Simple language, simple style, yes—but these new books must be written from a different angle with an entirely different conception. Again we must apply the standard of educating the boy and the girl, not diffusing knowledge through the world. Let us illustrate:

We have before us a new textbook on ancient history—one of the least offensive, so we were told by the agent. In the few pages devoted to Greece, we find the names of ninety-one men and women. The time to be devoted to the subject of Greece is intended to be about thirty lessons. On an average three new persons appear each day in the study as it proceeds. Here are a few of the persons whose names are mentioned and whose deeds are described: Cimon, Alcibiades, Gylippus, Pelopidas, Epaminondes, Aratus, Zeuxis, Parrhasius, Thales, Zeno, and Hippocrates. There are many others whose names might profitably be omitted. Many school boys for the excitement of the game would try to retain every name and every deed. Their memories might be stored with more profitable information. These are husks that inflate, but do not develop, the mental powers of youth.

Not only must the child to be trained occupy the center of the stage, but it is the early adolescent child who is beginning to develop an ego, who is beginning to feel that he has a big purpose in living, who is restless to try his strength on something worth while, whose emotions are sensitive to the appeal of heroic lives that have affected the progress of the world. The right kind of history and literature would book big in the life of the adolescent boy or girl. But facts

are not the things wanted. They want episodes with strong coloring and of great consequence. There must be a hero to give reality to it all.

Then there are textbooks on science, pure and applied. At this age it had better be reversed. There are a thousand things that are beginning to have a new interest to the pupils. Curiosity is strong. Let science reveal to them the relationship of man to nature and to the race; the relationship of nature to man and to the race. The so-called practical things will appeal strongly to the early adolescent. In the abstract he cares little for the winds and wind currents. But wind currents that affect the crops, that affect the construction of buildings, that affect the location of sea-ports, irrigation dams, and sailing-vessel routes—such wind currents will make a strong appeal to him. Let him proceed from the concrete to the abstract, from the effect to the cause. This is the point of view text writers must have in writing textbooks.

Algebra and geometry must be justified to the adolescent boy or girl from another standpoint. In the first place these courses use symbolic language, and adolescents are fond of secret signs. In the second place, these branches of mathematics give promise of new, direct and easier ways of solving problems. This side of the subject must be made much of. They are practical subjects for the mechanic, draughtsman, engineer, architect, artist, chemist, electrician. Textbooks must not fail to appeal to the adolescent's growing demand for real life; and yet they can and should make an appeal to the game and puzzle interests of youth.

5. Certain qualities to be developed in pupils.

A. *Acquisition of habits of industry.* This purpose of teaching is realizable through every subject, but its success depends very much upon the teacher. A fine habit to acquire

is one of working with full steam ahead when working, and playing hard when playing. The teacher will do well to observe the following points in teaching pupils to be industrious: The teacher must be a fine example of industriousness himself; there must be a regular, fixed time for the pupil's reciting and studying; a definite assignment of a lesson must be made so that the pupil will waste no time in getting to work; a limited time should be allowed the pupil for doing a task; the pupil should be taught how to study and work so as to save time; the pupil should be compelled to work when he does not feel like it, for the feeling of laziness will soon pass away and be forgotten, but habit of resisting one's lazy impulses will remain as an abiding blessing; pupils should be required to carry through a program once undertaken. If a pupil be permitted to follow his own whim, work when the spirit moves him, procrastinate, dissipate his energies, mope over his tasks, he will soon be beyond easy redemption.

B. *The development of sense perception* is best secured through music, art, manual training, sewing, craft-work, typing, and mensuration. In these subjects great stress should be placed upon keenness, accuracy, and swiftness of feeling, hearing, seeing, measuring. The teacher will begin with crude material and proceed in all three of the above lines toward greater and greater proficiency. Daily exercises must be provided and practice constantly insisted upon. The teacher must have as an ideal a degree of perfection far beyond what has been attained up to the present time.

C. *Acquisition of motor skill* is secured best through physical culture, manual training, printing, penmanship, shorthand, instrumental music, mechanical drawing, sewing, typing, and craft-work. The aim here is to secure accuracy, swiftness, delicacy, dexterity, power, and endurance. Here,

likewise, it may be said that the past records must be broken and the unbelievable attained. The rank and file must be raised beyond mediocrity, must in fact press close upon the heels of the specially gifted.

D. *Health and development* belong principally in the field of physical culture, athletics, physiology, domestic science, domestic art, sanitation, vocal music, folk-dancing, public speaking, theatricals, military training, dietetics. Corrective measures should be prominent in physical culture, as well as further development of the already healthy body. Athletics promote health, strength, and physical perfection, as well as physical courage and control. Domestic science works out a healthful diet and reveals the evils of a wrong diet. Domestic art gives the girls an ability to dress themselves becomingly without resorting to such evil practices as tight lacing and pinching of the feet with too small shoes. Vocal music develops the lungs and throat, gives correct breathing. Public speaking and theatricals promote correct posture and grace.

E. *Acquisition of information* of a usable sort comes through a study of vocational, civic and cultural branches of learning. In the past culture was stressed; now civic information is coming into its own. Vocational knowledge has broadened from the professions to include practically every honorable occupation. The information of every subject should be worth while if it is to be continued in the curriculum; but for each pupil there is a field of knowledge most worth while. The well-educated student, we say, should have a knowledge of the history of the world in general and of our own country in particular so that he will understand the present and profit by the experiences of those who have gone before. He should understand the institutions under which he lives and must work out his place in the universe.

He must know the necessary facts and principles connected with his probable future vocation, and should know considerable of the contributory facts as well as related vocations. He should understand the general principles of the scientific and material world about him—physical, chemical, biological, mechanical. He ought to learn to appreciate the beauties of nature and art—music, art, literature, drama, and to be familiar with the great masterpieces.

F. In discussing the *development of the faculties of reasoning, retentiveness, alertness, and quickness of perception*, we realize that we are on dangerous ground. We shall, therefore, not enter into the controversy concerning formal discipline, but shall assume that the question has not yet been proven against the possibility of developing the faculties of the mind. For the reasoning power, then, there are no better subjects than algebra and geometry. We must not rely upon these two subjects entirely, but should include exposition and argument in composition, grammar, economic problems, debate, and problems in science and mechanics. For retentiveness, we may use all the subjects to advantage, but in particular the memorizing of poetic and prose selections, the exact wording of geometric propositions, formulae in mathematics, meaning of words in language, and the converse—that is, the word for a certain meaning—spelling, mathematical tables, symbols in chemistry, laws and rules in all subjects. Drill in alertness should accompany all branches, but must especially be developed by the mathematics and language teachers. Quickness of perception is closely related to alertness, and is the opposite of sluggishness, dullness, sloth. Teachers must keep always in mind the development of this faculty by practice and drill, never by exhortation and nagging.

G. *Skill in expression* is especially within the field of English and its related subjects, debate, oratory, explanation of the solution of problems, economic and historical discussion. Oral and written composition deal constantly with this problem; and, although the ability to think may be placed first in the aims of a composition course, certainly skill in expression is the other great aim. The importance of this acquisition cannot be too much insisted upon. The teacher must constantly keep it in mind. We do not mean that he should interrupt the pupil's talk to make corrections, for the teacher will use a more tactful device than that. The pupil must be taught to turn his own mind in upon his own language before he can acquire ability to express himself well. He may be awkward at first, but speaking effectively will soon become a habit and will not require close attention.

H. The development in the pupils of a *liking for clean wholesome pleasures* is especially the duty of teachers in the junior high schools. It is the age for forming tastes. Hence culture subjects should book large at this time, providing that we do not aim too high and thus miss the mark. Through physical education may be developed the love for physical sports and athletic games. In manual training should be aroused a pleasure in making things with the hands. In English, a love for reading good literature; in art, for looking at paintings, statuary, architecture, scenery, landscape; in music, for hearing music of the better class; in foreign languages, for reading and conversing in an alien tongue; in history, for following the great, stirring deeds of the heroes of nations; in science, for collecting specimens and making experiments.

I. *Purposefulness of life*. The last aim of teaching to be discussed is one that affects deeply the lives of all boys and girls of the adolescent period. Why do I live? For

my own pleasure or for a greater purpose? Are the two ideas antagonistic or complementary? What can I do now to accomplish these purposes? How shall I prepare for carrying out the great plan? What effect will my present daily life have upon it? What effect will industry, self-denial, good habits have upon it? What effect will over-indulgence, bad habits, and vice have upon it? Is it a fact that everything I do or think now has its effect which will appear later? If so, does it not behoove me to consider well what I do, not solely with the thought of its present effect but also of its future effect? Every thought and every deed should be purposeful. The pupil should decide what effect he wants to produce and then go about doing the things that will bring that result about.

6. The method of the recitation period. We have used the expression "recitation period" because it is a term widely understood, and not because we believe that in any sense it should be a recitation to the teacher, of facts learned by the pupil in private study of an assigned lesson. On the contrary, we regard the period as a space of time allotted in the program to the concentrated study of some particular subject. The teacher is to teach through the medium of a certain subject, habits of industry, motor skill, health and development, usable information, reasoning, retentiveness, alertness, quickness of perception, skill in expression, a liking for wholesome pleasures, or life purposes, or a combination of several or all of these things. We shall draw no clearly defined line between the study part of the period and the so-called recitation part. In fact, the whole period must be regarded as a study period in which the pupil is making progress every minute toward the working out of some problem.

It may be accepted as a truism that a pupil will attack with greatest avidity, and will get most out of, that in which he has the largest interest. It follows that the first business of the teacher is to arouse the pupil's interest in the problem or subject. Attention both precedes and follows interest; but the first attention may in some cases be compelled attention, although in many instances it is aroused attention. A globe on the teacher's desk, apparatus on a demonstration table, a few notes sung by the teacher, the explosion of a chemical gas—all serve to attract the attention and arouse the interest of the class. The period's problem is then presented by the teacher or thought out by the pupils. There is the excitement of a game as the problem gradually unfolds itself to the pupil and he begins to see clearly what he has to do. One of the necessities of careful preparation by the teacher lies in the laying out of a definite problem for his pupils. The solving of this problem is the work of the "recitation period." There should be no more literal recitation than is absolutely necessary—just enough for the teacher to make sure that the pupils all do and understand the work.

Viewed in this sense the whole period may be one of supervised study. Many of the pupils will do the work without much direct supervision. Others will need the close supervision of the teacher, who may need to watch the pupil's solution of the problem step by step. Ten or fifteen out of a group of twenty-five may need to have the teacher accompany them paragraph by paragraph through a history lesson, help them look up all the references, and see that they get the real point out of each reference. The wise teacher will avoid interfering with the pupil who works well by himself. Such pupils may work in the library or elsewhere during part of the period, coming to the class-room for a summing up of their gleanings. This kind of school-work may

be regarded as self-propelled education and is highly desirable. The object of the supervised study should be to produce self-propelling students out of all the pupils. This method does not imply that certain students shall go faster than others; it will, however, result in some students putting far less time upon certain subjects than other students will have to do.

This method of teaching is more analogous to the laboratory method than to the recitation. We are all familiar with the laboratory method as applied to the sciences and with its counterparts, the library method as applied to history, the shop method as applied to manual arts, and the gymnasium or playground method as applied to physical education courses. Supervised study would not interfere with these plans and methods: it would apply many of the principles of the laboratory method to other subjects, such as English, mathematics, the languages, and the vocations. Teachers sometimes object to it as requiring more preparation and planning on their part. This seems to us to be an argument in its favor.

The introduction of supervised study will not eliminate the review recitation altogether. It is highly desirable that the class be got together two or three days each week for a conversational review of the work covered. The question and answer method may prevail at these meetings, but the pupil should be encouraged to ask the teacher questions also. Such questions may be jotted down and handed to the instructor before the review recitation begins. While conversational reviews are essential and experienced teachers are expert in the management of them, the principal should insist that they be not engaged in too frequently.

Finally, a modified lecture recitation should be used occasionally in all subjects. It may be presumed that the teacher

has had wide experience and that it would be to the benefit of his pupils if he would tell his pupils of those experiences. This will be entertaining as well as instructive and will draw teacher and pupils close to each other. Possibly the teacher may have carried on careful investigations in college or outside, the data from which would be of considerable value to his pupils. The best teacher will have done wide reading, the results of which should be retold to those who study under his tutelage. In many cases the teacher may secure outsiders to come in and talk to his classes along certain lines. Care must be exercised that the right persons are chosen and that the matter is presented in a clear and interesting way. This supplementary information drawn from the teacher's experiences or from outsiders is well worth while for the education of the young people. It correlates school with life, and serves to stimulate and inspire boys and girls at an age when they are in greatest need of stimulation and inspiration.

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CHAPTER NINE

ADMINISTRATION OF THE JUNIOR HIGH SCHOOL

1. The faculty. We wish to discuss the subject of the administration of the junior high school not so much from the point of view of the city superintendent as of the principal of the school and those who aid him. We may in this chapter consider that we have a school of three hundred to six or seven hundred pupils and from fourteen to twenty-five teachers. With such a school and a faculty already appointed and assigned to his building, the principal has certain problems demanding solution.

It is not conceivable that he undertake all the details of administration. He must delegate powers and duties to teachers, janitors, and pupils; and the most successful principal is he who can delegate most functions while he maintains control and supervision over all. In delegating these functions he must use great wisdom in selecting the persons to do the work. They become his authorized agents; if they fail, he is, and should be, held responsible.

The largest working body—as agent of the principal—is the faculty. This does not need any formal organization. All the teachers of the school are *per se* members of the faculty. The faculty holds meetings only upon the call of the principal, either at regular intervals or when necessity arises. The principal acts as chairman of the faculty meeting. Where many questions are to be discussed, it is sometimes advisable to have a recording secretary, perhaps the principal's stenographer. The principal delegates to the faculty as many matters as he deems wise. If he feels that the judgment of the faculty is good, is better than his own

acting alone, he will do well to ask the teachers to pass upon many questions of importance. If the faculty lacks good judgment, is prejudiced, or is divided, it were better for the principal not to refer important matters to it. Through these meetings the principal communicates to the faculty his plans of organization, his ideas on educational policy, and instructions that come from the superintendent. It is best not to burden a faculty with too many questions for it must be borne in mind that each teacher has his own teaching work to do and plans to make.

Some principals find it worth while to divide the faculty work among committees of the faculty. He appoints these committees and outlines the work desired. The author, when principal of a secondary school, appointed faculty committees on codification of rules and customs of the school, on preparation of plans for student self-government, on current educational progress, on discipline, etc. These committees made their reports and recommendations to the principal, who adopted them, rejected them, or referred them to the faculty as a whole. Valuable information is gathered in this way, and unity of action is secured.

It is well to assign to the various teachers duty as registration officers, or as class advisers. The principal will soon learn which of his teachers are adapted to this kind of work. A registration teacher needs to be exact, methodical, firm, a good judge of child nature, and active. A class adviser must be in sympathy with young life, must appreciate its pleasures and troubles, must be a good organizer, and must have a winning personality. Such teachers are even closer to the pupil than is the principal. For class advisers, the principal should pick those teachers who are closest to him, understand his ideals and policies, and are ardent advocates of them.

The principal will find it convenient and effective to assign to each teacher some collateral duty. It may be as coach of boys' or girls' athletics, coach of debate, leader of orchestras or of bands, cross-country chaperon, auditor of student-organization accounts, coach of the school plays, faculty member of the staff of the school newspaper, etc. Teachers should be chosen for their fitness for the work; but sometimes teachers should be appointed to certain tasks in order to develop the teacher. One of the tasks laid upon the principal is that he make excellent teachers out of those assigned to his building. He must bear this in mind.

2. Supervision. In a previous chapter the author attempted to make clear the undesirability of having heads of departments in the junior high school, especially as the ideal school is one requiring not more than twenty-five teachers. Mention was also made of the danger of having the senior high school heads supervise and control the work of the lower high school. It follows that in small communities having not more than two or three such schools, the superintendent should supervise directly the departmental work of the junior high school or delegate part of such duties to principals. In cities having more than three such schools, there should be a supervisor of subjects or several supervisors of subjects. These supervisors are to attend to the matter to be taught, its kind, quality, and amount; the providing of the proper supplies, equipment, and accessories; the best methods of teaching the subjects; the making of the curricula; the proper articulation with the courses of the grades below and above the junior high school. The supervisors are to work in harmony with the principals of the intermediate schools, are in fact advisory aides to the principals, and should stand to the principals and teachers in the same relation as heads of departments. The superin-

tendent when acting as supervisor has the same duties, but he is also the administrator of all the schools and occupies a dual headship. The supervisor does not take over the whole authority of the superintendent: he merely acts for the superintendent in the restricted field described above.

There are other officers in the city who exercise wider authority than one school, but their functions are also limited to one or two particular fields each. The director of the bureau of vocational guidance within a restricted area of activity is a supervisor. The vocational adviser exacts reports from the teachers, plans vocational stimulation, brings in outside speakers, arranges trips to industrial institutions, and himself teaches a class in vocational information and guidance. He makes himself useful to the principals of the various secondary institutions by making out the curricula for the pupils and by interviewing pupils who are desirous of leaving school, in order to hold them in school for their own good.

Then there is the bureau of compulsory attendance that touches the life of each school, the pupils and the teachers. This, too, occupies a restricted field and performs such work as is delegated to it by the superintendent. Within this bureau are the chief of the bureau, examining physicians, nurses, attendance officers, parental-school teachers, home teachers, interpreters. In a small city this work may all be entrusted to one person. In any case it touches the junior high school frequently, as it is during the age covered by this school that the compulsory attendance law ceases to operate. Again, it may be noted that the various activities of this bureau are an aid to the principal of the junior high school, and should be so regarded by him. The members of this bureau should also endeavor to be of the greatest assistance to the principals.

3. **Organization of the schedule.** In the making of a schedule nowadays it must be accepted as a necessity in many cases that pupils are not only to recite every lesson at school but also prepare every lesson at school. This is a feature of the junior high school and raises innumerable problems. Of course this does not mean that certain home reading of good literature and of magazines shall not be required. But the regular subjects occupy only the school day. This problem is rendered more difficult as physical education, athletics, debating society work, chorus rehearsals, etc., are also to be done at school. The upshot of the whole matter is that the school day must be greatly lengthened to even longer hours than existed before the enthusiasm for short and shorter sessions broke out. Many progressive schools have taken the lead and are now holding from 8.30 in the morning to 5 o'clock in the afternoon, with one hour for noon. Economy in space and teachers has even made it necessary to have some classes going on during the noon hour.

Assuming an enrollment of 400 pupils, and classes averaging twenty-five pupils each, and each pupil carrying five major subjects, we have a school with 80 recitations per day. Such a school would probably have 16 teachers. One plan would provide for eight periods of sixty-three minutes each (the three minutes for passing, leaving sixty minutes in the clear). The morning session would begin at 8.30, and the periods end as follows: (1) at 9.33; (2) at 10.36; (3) at 11.39; (4) at 12.42; (5) at 1.45; (6) at 2.48; (7) at 3.51; (8) at 4.54. Most of the students would eat lunch during the fourth period; many would try to reserve the seventh and eighth periods for athletics. A large number would prefer to have the first period for study only. To the eighty recitations mentioned above must be added eight study hall periods, making a total of eighty-eight to be divided among

sixteen teachers, an average of fewer than six recitations each. Now, if we assume that all sixteen teachers would teach during the second, third, fifth and sixth periods, we dispose of four times sixteen, or sixty-four, class recitations, four of which would be study hall supervision. In this way, only twenty-four recitations and study hall periods would be left to be disposed of during the first, fourth, seventh, and eighth periods. It may be readily seen that the schedule could easily be arranged so as to have the first, fourth, seventh, and eighth periods almost entirely for study, luncheon, recreation and physical or manual culture, respectively. Those who took their physical culture earlier in the day would be assigned regular recitations during the late afternoon periods.

This program provides for long periods and no recesses as such. It does, however, assume that three minutes shall be allowed for going from class to class and that this amount of time is ample for providing an opportunity to visit the toilet, get a drink, carry a message, etc. A sixty-minute period permits of supervised study. Some schools use the first twenty-five or thirty minutes of the period for recitation and the remaining time for study under the general direction of the teacher. If some of the pupils have learned to study economically and effectively before entering the junior high school, they may be segregated during the last part of the period, while the teacher devotes his time to teaching the others to study.

4. Clerical work. There is an immense amount of clerical work connected with the administration of a junior high school. It is best to have a principal's clerk to do it, but this is not always practicable. Some of it must be done by the principal himself while much of it can be done by delegating it to teachers or to pupils. The ringing of bell-

signals, answering the telephone, running errands can be done by pupils where there is no other agency. Many pupils like to do this kind of work and become very efficient. It is not just to impose upon them; but the good training gained offsets the loss of time where the latter is small.

In classes teachers must take the roll, and make a report to the principal at noon, night, after each period, or at the beginning of each period. The principal will find that his control of the school is greatly facilitated by following up the matters of attendance closely. It is well for him to devote the whole first period of the day to getting reports of absentees and telephoning to the homes where there is doubt in his mind about the cause of absence. Sometimes it is safe for the pupil of a class to make the report for the teacher and hang the slip on a hook outside the class-room door. The principal sends a pupil around to collect these reports, assembles them and keeps the school record of attendance. There is no excuse for careless records: they are the mark of a poor principal.

Every principal should have a complete system of files. The card system is best. The card should show the pupil's name, age, birthday, nativity, parents' names, address, telephone number, schedule of studies, and remarks. Another card may show his grades, his characteristics, his vocational tendencies, and such other information as the principal may need in promoting the best interests of the pupil and of the school. Files should be kept under lock and key and in a fireproof cabinet, for if they are worth keeping at all they are worth preserving safe from curious outsiders. Here again the principal is known by his works, the systematization of his information, and his estimate of pupils.

If the principal does not have a stenographer, he should himself learn to use a typewriter. He will do well to keep a

carbon copy of every letter he writes, every order or instruction he gives, every report he makes, as well as the original of all communications he receives. These should be filed and indexed so that he can readily get at what he wants. This may cost him much work but it will be well worth while as a labor saving device. Cross files are worth while as are also indexes of information and data. After a card system has once been worked out, it does not take long to make the few entries necessary. A filing system that merely arranges correspondence alphabetically by the surname of the correspondent is not sufficient: there should be made an index of the contents of the correspondence.

There are numerous reports constantly being called for by the superintendent's office or by others. These, with the regular reports of attendance, promotion cards, grade cards, financial statements, form a large amount of the clerical work. There are innumerable checks, room excuses, and passes to classes to be filled out and filed. Then there is the vast amount of supplies to be ordered from the central stock-room, to be apportioned to the teachers and to the janitors. An old school system will have all the blanks and forms necessary for this clerical work; but a new school will have to attack the problem of making up these forms for its own use.

In this connection is the principal's relation to the janitor. If the janitor is chosen for his efficiency and ability, he will keep the halls, rooms, windows, grounds, lawn, and toilets in perfect condition without suggestion from the principal. Otherwise, it becomes the duty of the chief administrative officer of the school to see that everything is in shipshape. One method of procedure is for the principal to make a regular tour of inspection every morning at a certain hour and to let nothing interfere with that job. He should first

note on a card the things he wishes to see to, and then check them off as he completes his inspection. Here are some of the things: Rubbish on grounds, lawn, shrubbery, heating of the rooms, blackboard cleanliness, floor sweeping, desk cleaning and marring, curtains and light, windows and picture glass clean, toilets clean, marking on the walls, halls and offices. Furnaces should be inspected once a week, also fire escapes and fire hose. Repairs should be attended to at once.

5. Student organizations and activities. The principal of a junior high school will find that student organizations and activities constitute some of his hardest problems. Skillfully managed they can be made to serve the very best purposes of education. They form a natural outlet for the exuberance and turbulence of the adolescent period. Suppression of these instincts would be fatal if it were even possible. They must be carefully guided and wisely used. Where they are quiescent or abortive, they should be stimulated and cultivated into normal existence. We shall attempt to describe what appears to us to be the best handling of the problems.

It is well to organize the whole school into an association of the student body. If dues are exacted they should be so small as to be within the reach of all—not more than twenty-five cents per year. Pupils failing to pay during the first month of school should be given full membership upon doing some work for the school such as leveling the athletic grounds, irrigating the field, keeping certain records, or mending nets or athletic suits. The association should choose a president and vice-president from among the members of the graduating class. All assemblies of the school need not be considered student body association meetings; there will be many assemblies that the principal will want

to conduct himself and which would lack in effectiveness if he had to conform to the formality of an association organization. The association may well care for such matters as school receptions and parties, school rallies, school debates, athletics, the school paper, the cooperative book-store, and the cafeteria. The association officers should feel it their privilege to support the principal and faculty in all forward and uplift movements; and the principal should take them into his confidence in many matters pertaining to student affairs. Financial matters should be carefully supervised and audited by the principal or by some teacher especially designated by him.

For certain specific activities there may well be other organizations, although some schools would prefer to regard them as communities or divisions of the student body association. Such are debating clubs, literary societies, class organizations, girls' clubs, boys' clubs, the band, glee clubs, athletic teams, the staff of the school paper, dramatic club. Care must be taken to prevent friction between the various societies. If they are all subordinate to the student body association, danger lurks in the officers of the larger body's assuming too much authority. We must not forget that children of this age lack adult responsibility and cannot attain it, no matter how conscientiously they may try. Care must be exercised to prevent clubs organized for educational purposes from becoming social fraternities of pernicious influence and snobbish exclusiveness.

Finally, there is the question of student self-government, so called. In this plan the pupils become responsible for the discipline in the school building and on the school grounds. There are pupil policemen, pupil attendance officers, pupil judges, pupil juries, pupil prosecutors and defenders. The faculty is usually regarded as the supreme court. The stu-

dent body meeting assembled makes laws and ordinances governing conduct. It is fine and most excellent training in citizenship and political science.

As a movement it started with the universities, has been carried out successfully by many high schools, and is being tried in several junior high schools. It makes more work for the faculty and requires infinite skill of the principal. In his own schools the writer has begun to try out the plan, entrusting at first only very limited powers to the students. As they develop the essential qualities, greater and greater authority will be extended to them. It will be necessary, however, for tradition to have time to establish good precedents and serviceable customs before the school can succeed on a large scale.

6. Accessories of teaching. There are certain accessories of teaching that the principal has to attend to in order to secure smoothness in the working of the school machinery. One of these is supplies. Most school districts furnish pens, pencils, ink, paper, blotters, and similar materials; in some states, if not all, the law makes it obligatory upon the school board to furnish these things. Some rule should be established for giving out these supplies as they, of course, should not be furnished lavishly to the pupils. A reasonable number of things, say three pencils, one penholder, three writing tablets, ten blotters, may be furnished each semester. If the pupil loses or uses up all this material in less than the five months, he would have to purchase the things he needs. A co-operative store might be conducted for this purpose.

Some schools furnish free textbooks. They are handled through the principal's office either directly or by a teacher designated by the principal. In a large school this work takes more time than a teacher may be expected to devote to it after school. If there is not a clerk to do this work, the

teacher should be given one or two periods of school time for it. There is more involved in the furnishing of textbooks than the mere money cost; there is a high moral content. Boys and girls do not *contribute* anything that causes a sacrifice; they do not *own* the books; they are *responsible* for *public* property. Then there are the habits of accounting for things, taking care of things, and feeling pride in possession. Altogether, the furnishing of books free is so fraught with possibilities of good and evil that it is a very important matter.

Where free textbooks are not provided, it is sometimes possible for the co-operative book store to rent them to the pupils at such a rate as to make a profit on the transaction. If this is done, it devolves upon the principal to keep careful check of the whole matter. This service will be of great advantage to pupils, especially where expensive instruments, such as mechanical drawing sets, are obtainable. As years go by, the store may accumulate sufficient surplus to enlarge its operations in many lines.

The management and effective use of a moving picture plant entails upon the principal many administrative burdens. Ordinarily it will be necessary for him to operate the machine, arrange for securing proper educational films, work out the details of assembling classes, etc. If these matters are not carefully worked out and followed up by the principal himself, he will find that the enthusiasm first displayed upon installing the machine will gradually wane and the visual methods of instruction will be discontinued altogether. The same may be said of other valuable aids to teaching. The tendency of the teacher is to neglect those methods of teaching that require elaborate preparation and irksome delays. If globes, charts, stereoscopic views, herbaria, in-

accessible specimens, etc., are to be used, the principal must make it his business to help get things ready.

Every junior high school should have a good working library, well-stored with books, and easily accessible to students. Someone must attend to the purchasing of books and magazines, cataloguing them, and issuing them to pupils. Then someone must advise teachers and children what to read and where to find it. Frequently debaters need help in getting material. It is desirable to make up bibliographies on various subjects to be taught. The principal has to get someone to do these things or else do them himself. In a small school the principal would probably find it best to assign a teacher to this work. In a large school, a librarian should be employed.

7. School interruptions, exercises, etc. Among the problems with which the principal has to cope are the interruptions to regular routine work—some pernicious, some wholesome, some preventible, some unpreventible. Occasionally the good of the school demands that routine work be interrupted for an hour, a day, or a week and the children be given something that educates, elevates or rests them. Vacations and holidays are usually decided upon by the board of education or the superintendent. Sometimes there is a demand for a slightly early afternoon dismissal, for a short rainy-day session, or for an hour on the lawn. Such matters are put up to the principal. If too frequent, they greatly hinder good school work; if very, very infrequent, something good may be lost.

After all, it is a matter for the principal to weigh and consider, to experiment with and to record results. How often shall I have fire-drill? How shall I conduct it? One thing is essential to make a fire-drill worth anything—*everybody* must be required to leave the building, teachers and princi-

pal included. Speed is desirable, lack of conflict should prevail. It is far best that no one except the principal should know whether it is a fire-drill or a real fire. If a careful direction is given to the school at the beginning of each semester, one drill per month should be frequent enough.

Assemblies should be called when the principal has something important to give. Many principals keep a note of matters as they come up, and when several have accumulated, they call the students together and announce all the matters at one time. A principal will invite noted speakers and others who happen to be in town at the time to come to the school and deliver a message to the assembled students. It may be a distinguished singer, artist, actor, author, government official, or other person whom the pupils would profit by seeing and hearing speak. The principal will have to be careful to stave off people who wish to make use of the school for advertising their wares or talents.

Some other problems in this connection are the management of telephone calls, the disposal of photographers, and the meeting with school-book men. Many schools have removed the telephones because of the temptation to parents to use them on the simplest pretexts. The telephone girl becomes a slave to parents who want this child to do this or that before coming home at night. Other schools have a rule that no pupil or teacher shall be called out of class except upon extremely serious matters. Pupils are not permitted to use the school telephone except upon school business. A charge of five cents for the use of the 'phone would probably stop its indiscriminate use. In many towns photographers pester the principal with requests to permit them to take the pictures of classes, groups of pupils, or interiors of rooms, offices, and apparatus. The principal will be expected to guard the interests of the school children and

not permit interruptions and loss of pupils' time. Representatives of school-book companies visit the school frequently and consume much time of principal and teachers. This time is not wasted; in fact the selection of proper text and supplementary books is of the very highest value. Such representatives are usually courteous and considerate. The principal will arrange for their meeting the teachers without interfering with the regular work of the school.

8. Moral guidance. In discussing this subject at this place it must be borne in mind by the reader that we are treating it purely as a part of the administrative functions of the principal and teachers. If it were treated in full, it should properly occupy a chapter of a book of this kind. We have preferred to discuss moral education in connection with each subject as it has come up.

Unquestionably, the formation of moral character is of tremendous importance throughout the school age, and the period of adolescence is especially fraught with possibilities. We have spoken of the adolescent age as that of religious awakening, of conversion, and of emotional religious experience. It is also a period of the awakening of social consciousness and responsibility. Psychologically, it is a period of doubt, introspection, brooding, self-examination, self-reproach and condemnation, of a feeling of unworthiness. But it is, likewise, an age of stubbornness, rebellion against restraint, violent passion, ill temper, greediness, carelessness in speech, and the awakening of sexual desire. These anti-moral and anti-social instincts find expression in laziness, truancy, slovenliness, slang, disrespect, over-dressing, over-eating, swearing, dancing, smoking, sexual vices, lying, and thievery. While the sins of adolescent girls are less spectacular and apparent than those of boys, they are nevertheless just as real and just as undermining to moral character.

The tendency of parents is to minimize the importance of adolescent excesses; the tendency of the church is to overestimate their importance. The position the school should take is one of sympathetic treatment of the adolescent victim, who is not responsible for the temptations.

Something wholesome must needs be substituted for the bad. Principals and teachers cannot shut their eyes to what is going on; they must create a clean atmosphere for the school. [We knew of a small high school where the teachers all left the building at noon, where the boys and girls danced during the absence of the teachers, where flirtations had sapped the vitality of the school, where boys and girls sat in single seats together during intermission and even during school hours, where swearing was common on the school grounds, where cheating in school and in athletics was the rule, where books of the school and supplies were stolen daily, where truancy went unpunished and unnoticed, where disorder was rampant, where the principal was assaulted by several boys, where obscene literature and pictures circulated among the pupils of both sexes, where the whole week was a feverish preparation for Friday night's dance.] This was a high school that had no eleventh grade and fewer than a dozen pupils in the twelfth. It was practically a junior high school, and the problems existing in it are duplicated in every such school.

The principal that undertakes the moral guidance of such a school has a tremendous task. His teachers must be carefully chosen and carefully assigned to strategic positions where offenders can be detected and offences prevented. The junior high school must not be made a reformatory or a penitentiary. If it devotes its main attention to dealing with offenders one by one, it will soon meet destruction. It must be organized with the idea of giving adolescents so much of

good to do that the bad cannot creep in. Here the school must rely on physical exercises, clean sports, manual activities, pure social pleasures, correct diet, clean but absorbingly interesting books, simple dress (school uniforms if necessary to curb a propensity already existing), politeness and good manners. The underlying principle is, keep the adolescent so busy doing right things that he will not have time to do wrong. This may extend to the point of co-operating with the pupil's home in a 24-hour daily program. Successful will be that principal who secures the confidence of the homes so that he can supervise not only the school hours of the pupil but the home hours also. If he can go further and work out with the churches a program for Sundays, his influence for good will be unbounded.

Suppose, however, that a principal and faculty find a junior high school in the condition of the high school described above, what can they do? To expel gross offenders and try to reform petty offenders may become necessary. But the chief task to be attacked will be the educating of the school in higher standards of right. This means a well planned campaign that must involve sympathy, resourcefulness, wisdom, tact, understanding of adolescent's mental activities, force, and even, perhaps, the mailed fist. The manly, the heroic, the courageous, the chivalric, the war-like, the religious spirit of boys must be appealed to along the line pursued by the Boy Scouts organization. The pure, the chaste, the health-seeking, the out-door, the fun-loving, the religious spirit of girls must be appealed to along lines adopted by the Camp Fire clubs. It may be necessary to talk very clearly to each sex, or even to assign boys and girls to separate classes or schools. Moral guidance is a paramount function of the junior high school; it must succeed in this work no matter how drastic may be the actions necessary.

CHAPTER TEN

RELATION TO THE SENIOR HIGH SCHOOL AND JUNIOR COLLEGE

In this chapter we wish to describe the effect of the junior high school movement upon the upper secondary school, and the latter's reflex action upon the former. This is by no means purely prognostication, for the results described in this chapter have already been fully realized in communities where the movement has been long in existence.

1. **The senior high school and the tenth grade.** Historically it is a fact that a lower institution tends to reach up and seize upon the matters that have been originated by the higher. In recent years we have seen this go on with accelerated speed. College athletics, nomenclature, mannerisms, student self-government, methods of teaching, courses of study have been seized upon by high schools and adopted. Colleges have copied the universities, have tried, in fact, to become universities, and in many cases have succeeded. The universities have striven to become graduate institutions and have succeeded. The intermediate school movement was given impetus by the ambition of seventh and eighth grade teachers to reach up and do high school work. The author knows of several junior high schools that were originally organized as seventh and eighth grade schools, or sixth, seventh and eighth grade institutions. They soon began to do high school work and in a remarkably short time had annexed the ninth grade.

With this strong tendency, it is altogether likely that the junior high school will gradually seize upon the tenth grade. It has already done so in many communities. This has happened even where no attempt was made to do four

grades in three years. It has been gradual, almost unnoticed. Where four of the sixteen college entrance credits were required for entrance to the senior high school, there are many boys and girls who find at the end of the ninth year that they have actually earned five. Others complete the year with only three credits or even fewer and find that they must stay another year. Such pupils—and they are numerous—enter senior high school practically as eleventh grade students. For a long time the tenth year work is offered in both the higher and the lower institutions, but this duplication is uneconomical. The question with the administration becomes, which school shall do the tenth grade? The lower salaries, the smaller laboratory equipment required, the ambition of the lower school, the pre-occupation of the higher school with a reaching up to do college work—all combine to give the victory to the junior high school.

2. **The upper secondary school's tendency to become college-like.** Paralleling this evolution is the junior college movement, which in the few years of its existence has made even more rapid progress than the intermediate school. The reason for its greater swiftness is undoubtedly due to the fact that the high school was already a well organized institution with great power and prestige, whereas the intermediate school had to become established before it could begin to reach upward. High school teachers and administrators are well organized, well paid, high spirited and aggressive. It would manifestly be impossible to keep them down, even were it desirable. Once aroused their ambition to do college work, they moved forward with characteristic impetuosity toward an inevitable goal. That goal was the annexation, to every good-sized high school, of the two first years of college, commonly called the junior college. This movement is gaining in force. In California alone there are now more

than twenty high schools with full-fledged junior colleges. A law has just been passed by the California Legislature that encourages the establishment of a junior college in every county, and in connection with every city high school.

Whither does this movement tend? If the high school had continued to be a four-year school, it is likely that the junior college would have held aloof as a post-graduate but separate institution. In time such a junior college would, by the theory described under paragraph 1, have reached up and secured the third and possibly fourth years of college. This has actually happened in a few cities where junior colleges have grown into four-year city colleges or universities. This result would have been deplorable because it would have left unsolved the problem of making a distinct separation of the fields of activity of colleges and universities. We feel that the present duplication of work in these two institutions and the consequent rivalry does not result advantageously for the cause of education.

But the high school has not continued to be a four-year institution. The junior high school movement has taken from it one year and will in a short time take away a second year. This will reduce the old high school to a two-year curriculum—the eleventh and twelfth grades. Thus shorn of its lower two years, it reaches up and takes over the two first years of college. It is ridiculous to suppose that such an anomalous condition will continue to exist. Unquestionably the senior high school and junior college must become welded into one organic whole, functioning as one institution.

Assuming this amalgamation as an inevitable certainty, the inquiry naturally arises as to what will be the nature of the new institution. Again we are led by an established rule that an institution takes its flavor from its upper-classmen,

this in spite of the fact that its lower classmen excel in numbers. The fact is so apparent that it is not open to debate. It must follow that the senior high school-junior college is to become collegiate in its nature rather than like a high school. It should therefore be given such a name as to indicate its nature. We presume for convenience to call it the collegiate school or the people's college. The term "junior" is relative in significance and to describe a permanent institution could not long endure. The junior high school must become the high school; the junior college, the college of the future.

3. Nature of the people's college. It may safely be assumed that the collegiate school is not to be simply a college, that is, it will not be just what a conventional college now is. It will become more and more collegiate, but the presence of younger students will prevent its becoming what we now know as a college. Its history and heredity will prevent that. Born of a college father and a high school mother, the collegiate school will resemble both its parents but will not actually be either. It serves a new generation, is brought up under different conditions and influenced by a different environment.

Let us examine for a moment its probable characteristics: It will be democratic in principle and in composition. The conventional college is aristocratic in principle appealing to only one class. That class is supposed to contain the best brains of the state. But the test for admission to this class—called intellectual—is a superficial examination based upon proficiency in certain studies themselves superficial. If a boy can master algebra and geometry, physics, chemistry, ancient and modern history, and a foreign language, he is considered intellectually an aristocrat, and *per se* is admitted to the conventional college. One hears nowadays the fre-

quent statement that it is best for some boys that they never go to college, for, forsooth, they are incapable of doing college work! The colleges turn back many from their doors and many more they eliminate later by examinations. These boys, say the wise ones, are incapable of acquiring a college education, and would be better off doing something for a living, learning a trade, farming, or laboring by the day! (It is hard to refrain from questioning such wise ones whether such a college education—impossible to the masses—is worth while to anybody.)

The people's college is growing up in opposition to, or in competition with, the conventional college. It may, therefore, be assumed that it will tack off at a different angle. The foundation of this new institution is the principle of intellectual democracy. It is a college to train the minds, bodies and souls of all the people. Hence, we shall expect to find in its student body people representing all varieties of intellectual characteristics. Such catholicity of purpose, such broadness of scope must make a strong appeal to the youth of America. Trained in such an institution the people of our country will tend to become more and more democratic.

In the second place, the people's college will be a finishing school more largely than a university preparatory school. It may be assumed that most students will enter it at fifteen or sixteen years of age and will finish the regular four-year course by the age of nineteen or twenty. This is a good age at which to begin a professional course at university; but it is also an age of sufficient maturity to justify beginning a career. Entering an occupation at the age of twenty, a man should be self-sustaining from the first and within three or four years should be capable of supporting a family. A girl finishing school thus early may enjoy a period of four or

five years in a self-supporting occupation and still marry early. On the other hand, completing her school education at twenty, she finds herself sufficiently mature in purpose to marry with judgment. It may, therefore, be assumed that the courses in the people's college will aim to complete the student's school education and to prepare him to enter directly into the adult world.

In the third place, the collegiate school is to be predominantly vocational. The argument that a person should not enter an occupation at an early age does not have much weight in this case. In the seven-year or eight-grade secondary course it is possible to give him broad culture and social and civic education as well. But as he advances in this course the vocational element becomes more and more predominant until in the last year it practically approximates the conditions of the adult world where the vocation occupies three-fourths of the day. An illustration will disclose our meaning:

11th Year	12th Year	13th Year	14th Year
1. Agriculture	Horticulture	Agronomy	Live Stock
2. Chemistry	Farm Mechanics	Irrigation	Soil Analysis
3. U. S. History	Economics	Farm Bkpg.	Farm Management
4. English Literature	Dramatics	Art	Farm-Home- Planning

In this course agriculture is the occupation aimed at. In the first year of the people's college the student takes one directly vocational study, one science-vocational study, one civic study, and one culture study. In the second year two courses are directly vocational, one course is civic-vocational, and one is cultural. In the third year, three courses are directly vocational, and one course is cultural. Finally, in the fourth year, all four courses are directly vocational, although one of the four is cultural-vocational. In such a

program we find the occupation booking larger and larger, the science, civic, and cultural subjects contributing indirectly, then directly to the main current. This is as it is in the adult world where the vocation is the central artery of life with physical pleasures, cultural enjoyment, scientific method, and civic activities contributing to it and dependent upon it.

4. Effect of the people's college upon the junior high school curriculum. Let us first ascertain what proportion of boys and girls will take in people's college the occupational courses and what proportion will prepare for university or other professional school. Of the boys finishing high school throughout the country only 47 per cent go to college or university and fewer than 6 per cent take professional courses. Of the girls in high school 92 per cent eventually marry and enter the vocation of keeping house. About 51 per cent go to university, normal or other professional institution. But those who graduate from high school form only one half of those who finish the ninth grade. It may therefore be assumed that about 24 per cent of boys and 26 per cent of girls entering people's college (tenth grade) will go to university, college or normal school. The college preparatory feature of the collegiate school should therefore be of far less importance than the occupational features.

This puts it squarely up to the junior high school to give to 75 per cent of both boys and girls most of the physical, scientific, civic, and cultural education that they are ever to get. From the specimen program given in section 3—which is essentially like all others—it is seen that one year each of chemistry, United States history, literature, art, dramatics and economics is all of the non-vocational work that may be gotten in people's college while two other courses are general enough to be accepted for entrance to university—that

is, two years of solid work. In the past educators have pointed out that four solid years of physical, scientific, civic, and cultural education are none too many for the good of the American people. If we agree with those premises, we must conclude that two years of this kind of education must be obtained in the intermediate school. This would leave only three-fifths of a junior high school year as the maximum for vocational work. If fifteen courses are offered in junior high school, twelve should be of the type described above, and three may be vocational.

For the boy whose economic circumstances or whose advanced age does not force the vocational work upon him in the junior high school, this heavy diet of non-occupational courses will be highly suitable. It may be hoped that the boy will not have to take in junior high school any more vocational or prevocational work than will be sufficient to help him and others determine what occupation field he would do best to enter. He may then have time to develop those other interests that are so essential to a well-rounded American. Chief among these is physical development which includes health, knowledge of nature's laws, manual dexterity, motor control, and muscularity. These become the *basis sine qua non* of all education. Ranking next in importance is civic or social education which embraces world history, American history, civic duties and responsibilities, and community well-being. There is, of course, inseparably connected with social education the necessity for a good command of the English language which is an essential of community well-being. The scientific spirit and method rank high in the aims of junior high school training, most readily acquired by means of the sciences. Finally, culture or the ability to enjoy the refining things of life, must occupy much of the time of adolescent education. Here

we classify English literature, art, music, and in a measure history, science, manual training.

There is, however, to be cared for the boy or girl who intends to enter a profession. This means that he is to take a university course after he has finished the people's college, and in the training of these young people we must be guided by what the universities lay down as the necessary basis for a professional education. It of course differs for various professions and for various universities. For the profession of law, historical, legal, logical, linguistic studies are recommended by the university authorities. The secondary schools must therefore provide two years of Latin, two of pure mathematics, one of advanced civics, one of logic, two of English composition, and varying amounts of political science, economics, advanced history, foreign languages, debate, public speaking, science—in short, so much that seven years are not too long for accomplishing it all. The inevitable result is that it throws back upon the junior high school the giving of the Latin, mathematics, sciences, and much history. If the pupil manages to squeeze in physical education, scientific training and a few cultural courses, he will probably have to work overtime. The same may be said of requirements for other professional courses.

Thus we find crowded into the three junior high school years much of what formerly was done in high school; at least the first two years of high school. This consisted of physical development, scientific education, civic education, culture, and university preparatory courses.

5. Effect of people's college upon junior high schools in cities. Just a word should be said of the relations existing between collegiate and junior high schools in a city where there exists one people's college or more than one. The problems are not essentially different in a city large

enough to have five colleges from those in a city having but one college. The questions arise out of conditions where one board of education governs both the higher secondary school and the lower ones. Such a city will have a superintendent whose sympathies and interests will lead him to promote harmony between the two grades of schools. He will see to it that the higher school does not dictate to the lower schools, and that the lower do not train the children away from the higher. It will be his desire to secure perfect articulation between the schools so that pupils are promoted from one to the other without friction, loss of time or credits, and with such smoothness that there will be no dropping out of school at this point.

There will be administratively many problems that will have to be met as they arise, such as the question of whether there shall be diplomas issued to those finishing the junior high school and whether there shall be graduation exercises. There seems to be a desire on the part of the students to have graduation exercises at which diplomas shall be issued to them by high authority. This diploma should state that it is a certificate of satisfactory completion of a certain curriculum and of promotion to the collegiate school. There should be a feeling on the part of the pupil that he must go on to the higher school. It will be the aim of the superintendent to get 100 per cent of the graduates to enter the college and to do it at once. Graduation exercises will be held in the middle of the school year when no long vacation may interfere with the continuity of the work. After the diplomas have been presented, the dean of the collegiate school should address the graduates welcoming them into his institution. He will have an opportunity at this time of influencing those who are undecided about their future. Even before finishing the junior high school, the pupils will

have been under the instruction of the vocational adviser. He will have made out all the college courses of study of those who are about to graduate. There will be very little break between the lower and the higher school.

Promoting by subjects, there are bound to be some cases of uneven promotion. If eight credits are required for admission to the people's college, some pupils will graduate from the lower school with nine or even ten. Shall these extra credits be recognized in the collegiate school, or shall they be regarded merely as making the pupil more fit to do the college work? Shall there be a standard grade of work in the junior high school in order that the pupil may be permitted to do college work? What should be that standard or recommendable grade? Shall the collegiate school maintain classes in algebra, geometry, etc., for the benefit of pupils who did not take those branches in the junior high school and yet who now need them for certain new purposes unforeseen when the pupil was in the junior high school? If not, what shall be the plan of taking care of such cases? Shall there be a standard of excellence in the use of English required for admission to the collegiate school? Shall there be a physical standard? These are questions for each superintendent to answer. They cannot be answered *ipse dixit* or *ex cathedra*. The broad principle must underlie these answers, that the people's college is for the masses and that it must be within the possibility of any normal person to enter and do work in it.

6. Relation of people's college to junior high schools outside cities. The California Legislature has set the minimum limit of taxable property of a district maintaining a junior college at \$3,000,000 assessed valuation. This would mean a city of not less than 5,000 population. Such a city would probably have twelve hundred pupils distributed as

follows: Grades 1 to 6, inclusive, 600 pupils; grades 7 to 10, inclusive, 300 pupils; grades 11 to 14, inclusive, 300 pupils. Such a city would, if compact, maintain one collegiate school and only one junior high school. The rule seems to be a reasonable one, for a people's college could scarcely succeed with fewer than 300 students and 15 teachers.

What shall be done in cities of fewer than 5,000 people? Let us consider several classes of such communities in an attempt to work out approximately accurate plans.

(a) Towns of 2,000 to 5,000 surrounded by well settled rural districts: Such a community should organize a union collegiate school district for the maintenance of one such higher secondary school. The town itself would have a junior high school to which pupils living outside the limits might come. Or, if there were in the union district one village of, say 500 people, such village should form the center for a union junior high school district. In any case the people's college would probably be governed by a different board of education, and there would arise problems of adjustment distinct from the city's.

(b) Towns of 2,000 to 5,000 not surrounded by well settled rural districts: Such a town could not profitably maintain a full people's college, but would best maintain in one building a junior and senior high school. In such an institution the problems would not differ materially from the existing high school problems; it would simply be a five-year instead of a four-year secondary school. In certain lines it might be more vocational than our present-day high schools. The town should provide for the support of its graduates through the thirteenth and fourteenth grades of some county people's college or at a privately endowed college.

(c) In towns of 500 to 2,000 surrounded by a thickly populated rural district, the same arrangements as those described in (b) might be secured. If such a town were within the shadow of a larger town, the smaller would be better served to unite in a union college district with the larger, at the same time maintaining a junior high school of its own.

(d) Towns of 500 to 2,000, not surrounded by a thickly populated rural community, would be wisest to maintain a first-class junior high school, and maintain its graduates at some county collegiate school where board and room could be partly worked out by the student on the college farm.

(e) Communities smaller than 500 should attach themselves to a near-by larger town in a union college district or union junior high school district.

(f) A community smaller than 500 people and standing alone should maintain a good elementary school, and if sufficient funds exist the two first years of a junior high school. Such a community would not have more than 100 pupils, twenty of whom would be in the seventh and eighth grades. It could then have one teacher's full time for the junior high school.

In discussing the relation of the people's college to the junior high school, only communities described under (a), (c), and (e) need be considered; and these all have the same problem. That problem arises over the fact that the two schools are under different boards of education. Greater tact and larger educational perspective must, under such conditions, be required of the dean of the college and of the principal of the junior high school. Certain definite rules would have to be laid down and adhered to in good faith by both heads and by both boards. Lacking a district superintendent, the county superintendent should wisely, tactfully,

and with clear educational ideas exercise supervisory and conciliatory jurisdiction over the relations of the two schools.

It would be wise and proper for the dean to take the initiative in a case of this kind and work out rules and regulations with the principals of the lower schools. If he does not take the initiative the county superintendent or one of the junior high school principals should take the initiative. There should be no misunderstanding of the purpose of secondary education, the *raison d'être* of a junior high school and of a people's college. It should be clearly seen that each school has a definite problem to solve, and the other school should co-operate to assist in making the solution easy and successful.

CHAPTER ELEVEN

AN IDEAL JUNIOR HIGH SCHOOL

We propose in this chapter to outline the conditions necessary to the institution and conduct of an ideal junior high school.

1. **The city.** We have shown in a previous chapter that a district must contain a certain number of inhabitants, children, and wealth, or be surrounded by rural communities that make up the deficit. It is best that the city be compact so that no pupil will have more than a mile to walk to school. The ideal would be a population of at least 5,000, or in a larger city a population of at least 5,000 to 8,000 to each 144 blocks. A square twelve blocks by twelve blocks with the school building at its centre would be the proper condition as to size and population. Cities with a scattered population would have to provide transportation for their pupils. The school population of such a square should be from 1,200 to 1,800, and the number of children from 12 to 15 years of age would be from 300 to 400.

The city should have an assessed valuation of at least \$5,000,000 to each junior high school maintained. If taxed to support such a school, a twenty-cent rate would produce a sufficient revenue. If the \$5,000,000 valuation is spread evenly over the entire square, each block will be valued at \$35,000—houses and lots. This will mean a good class of houses with excellent improvements. In a large city many squares would not have such a large valuation; but the extremely high value of business and industrial property would bring up the average for the entire city.

The people of the city must not only be prosperous with reasonably large families, but they must be public spirited

and progressive. They must take an interest in the public weal, especially in the education of their children and the children of the whole community, yes, and in the children of the future generation as well. They must put the education of their children above their own selfish comforts. They must try to understand what the schools are doing, and then fall in line and boost. They must believe that society is evolutionary, and that it is their duty to assist in progressive movements. Finally, they must be willing not only to talk and vote for progressive movements in education, but also to pay taxes—and to contribute in reasonable amounts for their children's good.

2. The board of education. With such people, it may be assumed that the city will elect to the board of education men and women of high purpose and good judgment. The members should themselves be public-spirited and willing to devote a reasonable amount of time and much deep thought to school problems. Each member should feel his responsibility to the whole city, but especially to the welfare of all the children and to the future of society, for within their keeping is the strongest social force in America. The board is a legislative, not an administrative body; consequently, a board of fifteen members meeting two to four times each year is better than a three-member board meeting every week. The people do not expect an unpaid board member to devote any considerable part of his time to school affairs. A large board will furnish a wider opinion and more diversified views than a small one.

The board's organization should be simple so that business may be done by the board *en banc* rather than by committees. It should employ experts and administrators to furnish data to guide it in its deliberations and to carry out its decrees. A president and a secretary will be necessary, but

further organization will complicate rather than simplify the transaction of business. A board has authority only *en banc*. An individual member or a committee has no legal authority, and cannot of course transact business for the district.

The board should be composite, some members conservative, others liberal, some judiciously careful, others constructively original, but all fair-minded and progressive. The board should not fear an idea or plan because it is new or unique. By their attitude toward all questions, they should inspire the superintendent to original thinking and wide investigation. They should expect, yes require, him to keep informed on educational movements everywhere; and not come before them with a suggestion until he can give the board considerable, if not complete, data upon which to base a judgment and to determine action. With this correct and sympathetic attitude toward their chief employee, they can reasonably expect that he will be frank with them and will respect their judgment and abide by their decisions.

3. The superintendent. As the chief administrative officer of the board, the superintendent should keep within his sphere of activity. He has no legislative functions, except as they are within the limits delegated to him by the board of education. He should always bear in mind that he is directly responsible to the board, and that he cannot rise above the source of his authority. Nevertheless, he has large discretionary powers and within certain limits is supreme. He should have a discriminating judgment keen enough to determine what are policies and what are discretionary powers. He is the chief adviser to the board. This should sober him and make him open and full in advising it on all matters. He should from the beginning of his employment map out a plan of relationship between himself and the board and should ask that the board definitely adopt the plan.

Thereafter he should be careful to live up to the full letter and spirit of the plan. That plan should provide that he be the ultimate authority in matters pertaining to supervision of teaching, nomination of teachers, and making of the curricula.

The superintendent should have a profound interest in the education of adolescents; he should feel, if the individuals composing society are to be advanced in civilization and in physical and mental perfection, that advance must be secured by properly educating adolescents. He must have a deep understanding of the physiology and psychology of adolescence, and be acquainted with the wisest plans and methods of educating girls and boys in this all-important period of their lives. To make the junior high school function as it should, the superintendent must appreciate deeply its significance, do all in his power to make the conditions for its best work possible, and take an active, personal interest in its proper functioning.

In building the curricula for the entire school system, he should see every part in its relation to all others, and should put proper relative values on the various parts. The curriculum should be fitted to the needs and to the natures of the children—not upon the needs or nature, but upon both. In it the period of adolescence should have special attention, for here more than anywhere else the course-makers can most easily go astray or utterly fail to make education fit the conditions. Unfortunately there are as yet few books on the subject of adolescence that deal with it in a scientific, empirical way. We need far more measurements, surveys, statistical information, and unbiased digests of these data. No superintendent has a right, however, to fail to familiarize himself with all that has already been written. The curri-

culum must embody all the latest and best information obtainable.

4. The grounds. The site for the junior high school should be in the centre of the square from which the school draws its pupils. Five acres is the minimum amount of ground, the buildings themselves occupying two acres, the athletic fields two more acres, while one acre should be used for gardens and agricultural experimentation.

The kind and placement of buildings are matters that will vary according to the conditions of the community and the ideals of those in authority. One plan is to have one large central building containing twenty or more rooms, the principal's offices, and other necessary rooms. Smaller, but suitable buildings will occupy flanking positions, designed to add to the beauty of the whole scheme. One such building would be devoted entirely to an assembly hall; another would house the manual training shops, and cooking and sewing rooms; a third would contain the science laboratories, propagating rooms, museums, junior chambers of commerce; while a fourth might house the library, reading room, art gallery and workshop, and the music conservatory. The arrangement and connecting of these buildings will be a matter of taste. A beautiful effect is secured by connecting them by artistic arcades. Plenty of lawn, some shrubbery, and clusters of trees here and there, add greatly to the beauty of the plan.

Athletic fields should be provided for football, baseball, track, tennis, basketball, handball courts, and other games. Two acres will not give more than enough room for these activities, and in all probability some of these sports will have to alternate in the use of the grounds. This is possible with football, track and baseball. The acre-farm should be so located as to display to the public the work being done,

and to get best results. It should be in the open sun and some distance from the groups of trees. Gardens and athletic courts should be protected by mesh-wire fences from careless marauders.

5. **The pupils.** A junior high school cannot do its best work with fewer than three hundred pupils or more than eight hundred pupils. The ideal is four hundred. This permits individuality, acquaintanceship with each other, close kinship of interests; it is also numerous enough to allow diversified courses, election of studies, a feeling of the bigness and importance of the school. Such a school could find in its number good material in sufficient numbers to carry on all school "activities."

Drawn from the same neighborhood, such a group would and should be homogeneous in character and in age. Wide variation in age does not make for the welfare of the school or permit the highest self-expression of the student body. The social standing and financial means of such a group would be fairly uniform. The physical development of the members of each class should also be fairly uniform, and the wise principal will so assign classes as to group in each class pupils of the same stage of adolescence. The mental development and the educational background of the pupils should be as far as possible homogeneous.

The spirit of the pupils should be ambitious, loyal, altruistic, tractable. Ambition for themselves individually, expressed in terms of liking school, determination to secure an education, and willingness to endure petty discomforts—this and ambition for the school are indispensable to a successful junior high school. The pupils must be loyal to the school, and willing to work hard and restrain their bad tendencies in order to build up the reputation of the school. Each pupil must have considerable altruism, and be willing

to help his fellow-students in all right lines. Pupils must be tractable—willing to listen to reason and to follow the best judgment of principal and teachers. This does not mean a lowly spirit, or blind obedience. That would not be desirable even if it could be secured in a group of early adolescent boys and girls.

6. The buildings. We have spoken of the number and arrangement of the buildings. They should be of modern construction, fire-proof throughout, not over two stories in height. A basement for furnace rooms, store-rooms, toilets, etc., may be constructed, but it is far better to have these on the same floor with the school rooms. Space may be saved and convenience obtained by building the stairways on the outside of the building instead of fire-escapes, and covered artistically by porch roofs. A play-room or gymnasium may occupy a separate building, or in case of lack of space may be on the roof of the main building. In the latter case the roof should be constructed of material that will deaden the sound.

The school rooms will be of sufficient size, well ventilated and lighted, and sufficient in number. The principal's offices should be commodious enough for the work to be done, there being a private office with an exit directly into the hall. It ought not to be necessary for the principal to send a reprimanded pupil back through a waiting room where other pupils may be gathered. Each teacher should have access to a consultation room near to his regular recitation room. Study-halls, libraries, laboratories, gymnasiums, swimming pools, teachers' rest rooms, model housekeeping rooms, hospital wards, dressing rooms, music rooms, museums and art galleries should be provided of suitable size and convenience. Classes should be so arranged as to reduce to a minimum the climbing of stairs by girls, especially

the older girls. The rooms should be provided with all accessories of teaching.

7. Accessories of teaching. The accessories of teaching should be provided liberally, but not lavishly. Each room should be provided with a good teacher's desk with several drawers, an office chair for the teacher and at least three chairs for visitors, a good blackboard of at least eighty linear feet of slate or hyloplate, black, green, or brown. The lighting should be arranged scientifically. Movable desks should be provided in sufficient number for the largest class, each desk equipped with a drawer for books, either adjustable to size of pupil or several sizes provided for each room. Books, paper, pencils, pens, and ink in sufficient quantities and of satisfactory quality should be supplied.

There should be special rooms adapted to the particular subject taught. The English room should be equipped with shelves and cases for books and with racks for the filing of student's compositions. The commercial room should be provided with counters, banking cribs, typewriters, book-keeping desks and adding machines. The geography and history room must have maps, globes, charts, and cases for geological specimens, papers, ethnologic material, and historical relics. The gymnasium will be well supplied with dumbbells, Indian clubs, trapezes, exercisers, wrestling mats, boxing gloves, and other necessary apparatus.

The library should be well supplied with carefully selected books, magazines, pamphlets and newspapers. Either each junior high school should have a librarian or there should be a school librarian whose sole business it is to buy books for the several junior high schools. It is better to provide a number of copies of one excellent reference book than a variety of indifferently good books. Before purchasing a book the librarian should be sure that the teacher and pupils

will use it. Teachers are only too prone to request books that they know little about and that they will not find available for their use after purchased. It might be desirable to insist upon each teacher's showing how he is going to use a book requested before buying it. The library should be accessible to all pupils of the school as soon as they learn how to use library books. The budget should provide at least \$500 per year for each junior high school library.

The laboratories should be furnished and equipped with great care. There should be tables for the pupil's use, provided with drawers, a proper composition top, and individual laboratory instruments. Of course gas must be piped to the tables, and bunsen burners provided. Science supplies in reasonable quantities may be doled out from a central store-room, or kept on hand in the locked cases of the teacher. A lath-house for the propagation of plants is an indispensable accessory to the teaching of elementary agriculture. The acre-farm is, however, the best laboratory for the teaching of the elements of farming. For it water for irrigating must be piped to the land, fertilizer must be purchased in sufficient amounts, and farm implements of various kinds for actual use and for demonstration need to be bought or rented.

8. The faculty. The principal should be a man of considerable experience, a lover of youth in all its manifestations, and an educator of large vision and executive ability. He must be able to grasp large principles and translate them into the details of everyday school life. He must see whither the plan leads and the way whereby the end is to be reached. He must not have his eyes so riveted on the goal that he does not see the crooks and turns of the road; nor must he fix his gaze so intently upon the road that he forgets the glorious result to be accomplished. But he must see all, feel all, know all.

The teachers are of varied personality, but all must love and appreciate children. They should not be so far from adolescence that they have forgotten their own personal experiences, nor be so close to it that they have no perspective and cannot see that adulthood will inevitably follow normal development. They must be teachers of children; and, not neglecting the subject-matter and the problems, they will yet devote every effort to educating the pupils. Physical, mental and moral strength is the thing to be aimed at; the means are study, work, habits, knowledge, exercise, play, good will, interest, attention, concentration, English, history and the whole category of subjects. The teachers must know themselves how to work and be able to teach their pupils how to work. They must be physical, mental and moral examplars, and full of the milk of human kindness.

The principal and teachers compose the faculty of the school. As they work hand-in-glove with perfect correlation toward the big goal of education, so will the school succeed. The faculty is unquestionably the most important of all the conditions of an ideal junior high school. Lacking an ideal faculty, the school falls short, the result is mediocre, the boys and girls fail of high attainment, society is not advanced. Lacking ideal conditions in all the other points we have considered, but having an ideal faculty, there is still much hope. An heroic group of teachers captained by a capable principal may win the battle with all other conditions falling far short of the ideal.

There must be a sufficient number of teachers to carry on a program such as we have described in Chapter Nine. A teacher should not be expected to teach more than six periods, or make more than three preparations per day. The principal should not be expected to teach at all, but he may elect to teach not more than two periods per day. Clerical

assistance must be furnished; a good janitor provided—one who understands his plant, its perfect operation; a librarian or the equivalent employed; and proper supervisors assigned, who will actually assist, not hinder, the teachers in getting the best results.

9. **Conclusion: results.** With ideal but perfectly realizable conditions, the junior high school—which will probably be the high school of the future—should accomplish very definite results, results that are the aim and purpose of the institution. Let us summarize these results in concluding this discussion of early adolescent education.

(a) The junior high school operates to prevent boys and girls from dropping out of school. This is a result of great value to the individual that is held in school, but is also of great economic, civic, cultural, and social value to the community.

(b) By means of the junior high school pupils' aptitudes and talents will be discovered and the pupils will be guided to take proper courses in school that will prepare them for the vocation for which they are best fitted. This should make it possible for a young man to enter his life career at once upon graduating from school. He will be spared the waste of time and the bitter experience now required in looking for a position. The employers, too, will be benefited in that they will be able to secure the very best boys for their employment without the waste of trying out and dismissing several persons before the right one is secured. The world will be happier and more efficient because everyone will be working at the job he likes best and can do best.

(c) Pupils will be saved at least one year of time in securing their education. This will not only be an economic gain to the individual, but will be a social gain in that men will have at least one year longer in which they will be com-

munity supporting. Take a community that is being supported by 1,000 men workers, whose average length of time in which they contribute to the support of others—family, relatives, the poor, churches, other social agencies—is twenty years. Those 1,000 men will hereafter have twenty-one years in which to earn what they now have to earn in twenty years. If applied in days' work per year, it would result as follows: Supposing that the average man works 300 days per year at present, hereafter he would have to work only 285. Counting out the 52 Sundays, it would give each man a twenty-eight-day vacation instead of a thirteen-day vacation. Or, if the men continued to work the same number of days as before, the community could be supported on a higher plane than at present.

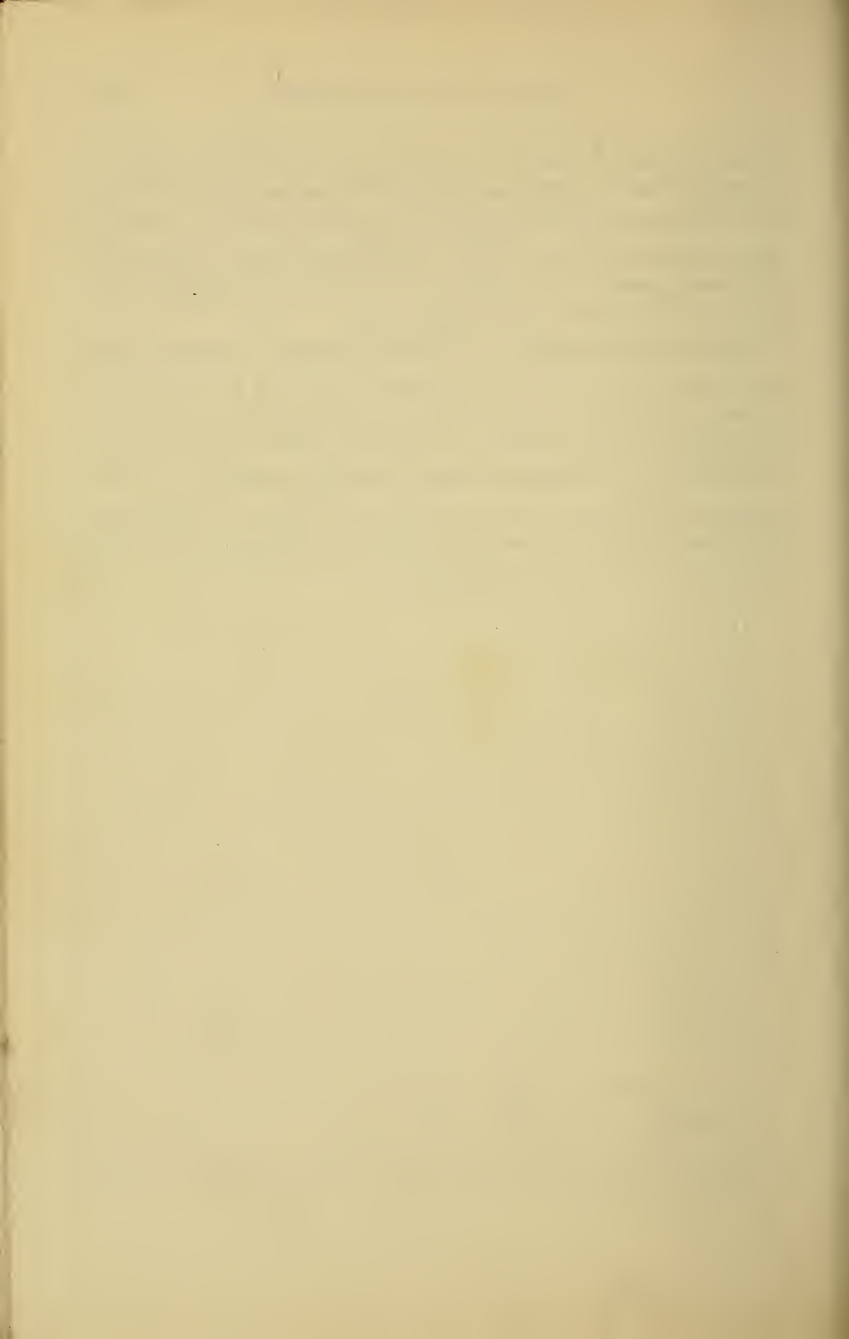
(d) Pupils are given the right kind of education—training that is adapted to the period of adolescence. We may look for the results of this right kind of education in improved health, physique, mentality and morality. While this effect will be immediate and easily perceptible, the effect will be cumulative and eternal. The future generations born of physically and mentally fit parents will rise quite perceptibly above our own generation. We may look for hereditary as well as immediate benefits.

Civic, altruistic, vocational, religious, cultural, scientific, sense education at this plastic and evolutionary period can but result in better government, in social improvement, in economic efficiency, in deeper religion, in greater happiness, in further advancement in inventions, comforts, disease-prevention, and in bodily development.

All of these results are to be brought about not by the junior high school single-handed. There is at present a general progressive movement in education of which early adolescent training forms a vital and central part. Occupa-

tional training, vocational guidance, the junior college, teaching how to study and work, elimination of non-essentials, extension of kindergarten methods into the grades, sense education, new ideas of buildings, better administrative management of schools—all these are playing their parts along with the junior high school.

In treating the theme of this book, we have tried to give due credit to those other movements and show how they are related to early adolescent education. Educators are pretty well agreed, however, that the success of the whole scheme cannot be fully realized without careful attention to the period of adolescence, the best device being an institution organized on the plan described in the foregoing pages under the name of the junior high school.



APPENDIX

JUNIOR HIGH SCHOOL COURSES OF STUDY

LOS ANGELES

A. *General Course.*

First Year of Course.

Required Subjects.

English	5
Arithmetic	5
History ($\frac{1}{2}$ yr.).....	2 $\frac{1}{2}$
Geography ($\frac{1}{2}$ yr.).....	2 $\frac{1}{2}$
Physical Training.....	1
Music	2
Drawing	2
Penmanship	2
Man. Tr. or Dom. Science.....	4

One elective.....5

French	5
German	5
Spanish	5
Latin	5
Bookkeeping	5
Stenography	5

—

Total 31

Second Year of Course.

Required Subjects.

English	5
History-Civics	5
Physical Training.....	2
Oral English ($\frac{1}{2}$ yr.).....	1
Music ($\frac{1}{2}$ yr.).....	1

Phys. and Hygiene.....	2
Man. Tr. or Dom. Science.....	4
Two electives.....	10
Same as 1st yr.....	5
Algebra	5
Drawing	5
	—
Total	30

Third Year of Course.

Required Subjects.

English	5
Physical Training.....	2
Music or Oral English.....	2
Three electives.....	15
Same as 2d yr.....	5
Com'l Arithmetic.....	5
Ancient History.....	5
General Science.....	5
One other elective.....	5
Cooking	5
Sewing	5
Woodwork	5
Drawing	5
	—
Total	29

B. *Commercial Course.*

First Year of Course.

Differs from General Course in that Book-keeping—5, and Stenography—5, are required and take the place of Music—2, Drawing—2, and Manual Training—4.

Second Year of Course.

Differs from General Course in that Bookkeeping—5, Stenography—5, and Penmanship—2, are required and take place of Manual Training—4, Music—1, Oral English—1, and one elective—5.

Third Year of Course.

Required Subjects.

English	5
Commercial Arithmetic.....	5
Bookkeeping	5
Stenography	5
Physical Training.....	2
Two electives.....	10
Same list as General	

Total 32

C. *Vocational Course.*

Very similar to General Course, except that in the second and third years ten hours of woodwork or cooking-sewing are required.

CINCINNATI

A. *Industrial Arts Course.*

Seventh Year	Hours
Physical Training and Hygiene.....	5
English	3
History and Civics.....	3
Music	1
Shopwork and Mech. Drawing.....	10
General Science.....	3

Mathematics	4
Freehand Drawing.....	1

—

Total 30

Eighth Year.

Physical Training and Hygiene.....	5
English	3
History and Civics.....	3
Music	1
Shopwork and Mech. Dr.....	10
General Science.....	3
Mathematics	4
Freehand Drawing.....	1

—

Total 30

Ninth Year.

Physical Training and Hygiene.....	5
English	3
History and Civics.....	2
Music	1
Physics	3
Algebra	3
Economics and Ind. Relations.....	2
Freehand Drawing.....	1
Shopwork and Draughting.....	10

—

Total 30

B. *Commercial Course.*

Seventh Year.

Physical Training and Hygiene.....	5
English	3
Civics	1

Music	1
History of Commerce and Industry..	4
Geography	3
Mathematics	5
Printing and Bookbinding.....	2
Drawing	2
Penmanship, Corresp. Prac.....	2
Salesmanship	2
Total	30

Eighth Year.

Physical Training and Hygiene.....	5
English	3
Civics	1
Music	1
United States History.....	2
Biography of Great Americans.....	1
Lib. Read. in Mod. Commerce.....	1
U. S. Geography.....	3
Mathematics	5
Engraving and Allied Arts.....	2
Artistic Lettering.....	2
Advertising	2
Pen. Corres. Practice.....	2
Total	30

Ninth Year.

Physical Training and Hygiene.....	5
English	3
Music	1
Art Appreciation.....	1

Economic Geography of U. S.....	3
Commercial Vocations.....	3
Office Methods.....	1
Bookkeeping and Penmanship.....	10
Business Forms.....	1
Elementary Economics.....	2
	—
Total	30

HOUSTON

A. *General Course.*

First Year.

Required: Regular seventh grade subjects.

Elective: Latin, German, Spanish or Algebra.

Second Year.

Required: English.

Elective: Three of the following, depending upon college requirements, etc.: Ancient History, Algebra, Latin, Spanish, German, Physiography, Physiology and Hygienics, Manual Training, Domestic Science, Com. English.

Third Year.

Required: English.

Elective: Three of the following, depending upon college entrance requirements, vocational needs, etc.: Med. and Modern History, Algebra, Latin, Spanish, German, Biology, Typewriting and Shorthand, Manual Training, Domestic Science.

B. *Commercial Course.*

First Year.

Same as in General Course.

Second Year.

Required: English, Com. Eng., a Language.

Two electives: Algebra, Science, History,
Man. Training, Domestic Science.

Third Year.

Required: English, a foreign language, Sten-
ography and Typewriting.One elective: Algebra, Science, History, Man-
ual Training, Domestic Science.

DETROIT

A. *English Course.*

First Year.

English	5
Literature	5
Mathematics	5
History	5
Physical Education.....	2
Music	2
Drawing	2
Man. Tr. or Dom. Sci. and Dom. Art	4

Second Year.

English	5
Literature	5
Mathematics	5
History 8-B and Gen. Geog. 8-A....	5
Physical Education.....	2
Music	2
Drawing	2
Man. Tr. or Dom. Sci. and Dom. Art	4

Third Year.

English	5
Literature	5
Mathematics	5
Man. Tr. or Dom. Sci. and Dom. Art	4
Physical Education.....	2
Elect One:	
Ancient History.....	5
Physiography	5
Drawing	5
Music	2—7

B. *Commercial Course.*

First Year.

English	5
Literature	5
History	5
Mathematics	5
Physical Education.....	2
Music	2
Drawing	2
Man. Tr. or Dom. Sci. and Art.....	4

Second Year.

English	5
History 8-B and Gen. Geog. 8-A....	5
Bookkeeping	5
Physical Education.....	2
Music	2
Typewriting	5
Com'l Arithmetic.....	3
Pen. and Spelling.....	2—5
Elect One:	
Literature	5
Man. Tr. or Dom. Sci. and Dom. Art	4

Third Year.

English	5
Bookkeeping	10
Typewriting	5
Physical Education.....	2
Elect Two:	
Literature	5
Shorthand	5
Algebra	5
Man. Tr. or Dom. Sci. and Art...	4

C. *Industrial Course.*

First Year.

English	5
Mathematics	5
History	5
Man. Tr. or Household Arts.....	10
Drawing	5
Physical Education.....	2
Music	5

Second Year.

English	5
Mathematics	5
History 8-B and Gen. Geog. 8-A....	5
Man. Tr. or Household Arts.....	10
Drawing	5
Music	2
Physical Education.....	2

Third Year.

English	5
Mathematics	5
Man. Tr. or Household Arts.....	10
Drawing	5
Physical Education.....	2

Elect One:

Literature	5
Physiography	5

POMONA

Intermediate School Course.

Opportunity Semester (for those whose grades in the sixth grade have been mediocre).

Five of the following, as needed:

Arithmetic
 Art
 English
 Drawing
 History and Geography
 Home Credit Work
 Manual Training
 Orchestral Music
 Sewing
 Typing
 Vocal Music

First Year—8B.

1. English
2. Latin Beginnings or Spanish Beginnings
3. U. S. History and Civics
- 4, 5. Two electives from
 - Algebra I (1)
 - Elem. Bookkeeping I (1)
 - General Science I (1)
 - (Includes Dom. Science I)

First Year—8A.

1. English
2. Latin I (1) or Spanish I (1) or Drawing I (1)

- 3, 4, 5. Three electives from
Algebra II (1)
Bookkeeping II (1)
General Science II (1)
(Includes Dom. Science II)
Ancient History I (1)

Second Year—9B.

1. English I (1)
2. Latin II (1)
Drawing II (1), or Spanish II (1)
3, 4, 5. Three electives from
Algebra III (1)
Bookkeeping III (1)
General Science III (1)
Domestic Science III (1)
Ancient History II (1)

Second Year—9A.

1. English II (1)
2. Latin III (1)
Drawing III (1)
Spanish III (1)
3, 4, 5. Three electives from
Geometry I (1)
Bookkeeping IV (1)
Dom. Science IV (1)
Agriculture I (1)
Manual Training I (1)
Music I (1)
Algebra I (1)
Ancient History III (1)
General Science I (1)

Third Year—10B.

1. English III (1)
2. Latin IV ($1\frac{1}{2}$)
Spanish IV ($1\frac{1}{2}$)
Mechanical Drawing I ($1\frac{1}{2}$)
Art I ($1\frac{1}{2}$)
- 3, 4, 5. Three electives from
Geometry II (1)
Bookkeeping V (1)
Domestic Art V (1)
Agriculture II (1)
Manual Training II (1)
Music II (1)
Algebra II (1)
Modern History IV ($1\frac{1}{2}$)
General Science II (1)

Third Year—10A.

1. Vocational Guidance
2. Latin V ($1\frac{1}{2}$)
Spanish V ($1\frac{1}{2}$)
Mechanical Dr. II ($1\frac{1}{2}$)
Art I ($1\frac{1}{2}$)
- 3, 4, 5. Three electives from
Geometry III (1)
Bookkeeping VI (1)
Domestic Art VI (1)
Agriculture III (1)
Manual Training III (1)
Music III (1)
Algebra III (1)
Modern History V ($1\frac{1}{2}$)
General Science III (1)

Explanation—Numerals in parenthesis refer to the number of high school credits at which each semester's work is valued. Forty-five credits are required for entrance to our junior college or to the University of California and similar institutions. Twenty-four credits may be earned in the California intermediate school courses of our junior high schools.

BIBLIOGRAPHY

Bibliographies:

- ABELSON, J. *Bibliography of the junior high school.* EDUCATION, vol. 37, pp. 122-129, October, 1916.
- JUDD, C. H. *Recent articles and books on the junior high school.* ELEMENTARY SCHOOL JOURNAL, vol. 17, pp. 674-684, May, 1917.

References in Books:

- AYERS, L. P. *Laggards in our schools.* Charities Publishing Co., New York, 1909.
- CUBBERLEY, E. P. *School organization and administration.* World Book Co., Yonkers, 1917.
- CYCLOPEDIA OF EDUCATION, P. Monroe, editor. The Macmillan Co., New York. Vol. 3, pp. 68-93. *Education in Germany*, Ziertmann. Vol. 2, pp. 656-675. *Education in France*, Compayré.
- HALL, G. STANLEY. *Adolescence.* 2 vols. D. Appleton & Co., New York.
- HALL-QUEST, ALFRED L. *Supervised study.* The Macmillan Co., New York, 1916. Especially the Appendix.
- INGLIS, ALEXANDER. *Principles of secondary education.* Houghton-Mifflin Co., Boston, 1918.
- JUDD, CHAS. H. *The psychology of high school subjects.* Ginn & Co., Boston, 1905.
- PARKER, S. C. *Teaching high school subjects.* Ginn & Co., Boston, 1915.
- SNEDDEN, DAVID. *Problems of secondary education.* Houghton-Mifflin Co., Boston, 1917.
- STRAYER, GEO. D. *Some problems in city school administration.* World Book Co., Yonkers, 1918.
- TAYLOR, JOSEPH S. *A handbook of vocational education.* The Macmillan Co., New York, 1914.

U. S. Bureau of Education.

- Report of the Commissioner of Education, 1912. Vol 1, p. 152-6. Good list of junior high schools in 1912.
- Report of the Commissioner, 1914. Vol. 1. BRIGGS, T. H. *Secondary education*. P. 127-157.
- Report of the Commissioner, 1915. Vol 1. DAFFENBAUGH, W. S. *Reorganization*. P. 60-64.
- Same. VAN SICKLE, JAS. H. *Readjustments in grades above the sixth*. P. 30-3.
- Report of the Commissioner, 1916. Vol. 1. BRIGGS, T. H. *Reorganization of secondary education, etc.* P. 114-118.
- Bulletin No. 4, 1907. THORNDIKE, E. L. *Elimination of pupils from the schools*.
- Bulletin No. 5, 1911. *Age and grade census of schools and colleges in U. S.*
- Bulletin No. 38, 1913. BAKER, JAS. H. *Report of Committee of Council of Education, N. E. A., on Economy of time in education*.
- Bulletin No. 41, 1913. *Report of the Commission of the N. E. A. on the reorganization of secondary education*.
- Bulletin No. 10, 1914. *Physical growth and school progress*.
- Bulletin No. 8, 1916. BUNKER, FRANK F. *Reorganization of the public school system*.
- Bulletin No. 28, 1916. *Report of a committee of the N. E. A. on the social studies in secondary education*.
- Bulletin No. 2, 1917. *Report on reorganization of English*.
- Bulletin No. 49, 1917. *Report of a committee of the N. E. A. on music in secondary schools*.

National Education Association Proceedings.

Los Angeles, Calif., meeting, 1907.

MORRISON, G. B., et al. *Report of committee on an equal division of the twelve years.* P. 705-10.

Cleveland, Ohio, meeting, 1908.

LYTTLE, E. W., et al. *Report of the committee on six-year course of study.* P. 625-628.

Denver, Colo., meeting, 1909.

MORRISON, G. B., et al. *Third report of committee on six-year course of study.* P. 498-503.

Salt Lake City, Utah, meeting, 1913.

JUDD, C. H. *A seven-year elementary school.* P. 225-34.

WILSON, H. B., et al. *Report of the committee on economy of time in elementary and secondary education.* P. 217-225.

Oakland, Calif., meeting, 1915.

CLAXTON, P. P. *Organization of high schools into junior and senior sections.* P. 747-'8.

WILSON, H. B., et al. *Report of the committee on economy of time.* P. 402-410.

New York City, meeting (also Detroit), 1916.

BRADFORD, MARY. *Changes in the curriculum upper grades.* P. 407-'11.

JOHNSTON, C. H. *The junior high school.* P. 145-152.

JUDD-PEARSE debate: *The best organization for American schools is the 6-6 plan.* P. 917-'34.

JUDD, C. H. *Affirmative of the 6-6 question.* P. 917-'25.

PEARSE, CARROLL G. *Negative of the 6-6 question.* P. 925-'34.

SNEDDEN, DAVID. *Minimum essentials vs. differentiated course of study in seventh and eighth grades..* P. 965-'76.

Same. *Peculiar psychological conditions and social needs of the seventh and eighth grades.* P. 398-403.

WEET, H. S. *First step in establishing the 6-3-3 organization.* P. 1036-'42.

Portland, Oregon, meeting, 1917.

BARKER, A. C. *The intermediate school or junior high school.* P. 266-'71.

BAILEY, LAURA C. *Library opportunities in the junior high school.* P. 576-'81.

DEAMER, ARTHUR. *General or elementary science in the junior high schools.* P. 542-'5.

KIRKPATRICK, CHAS. *Vocational content of the intermediate high school course.* P. 535-'8.

PEIRSON, MABEL B. *Biology in the intermediate school.* P. 538-41.

Periodicals:

AMERICAN EDUCATION.

COX, PHILIP W. L. *Junior high school; its purposes and how they may be realized.* Vol. 19: 337-43. February, 1916. *Solvay junior high school.* Vol. 20: 80-86. October, 1916.

AMERICAN SCHOOL BOARD JOURNAL.

REINOEHL, F. W. *Some fundamentals of the junior high school problem.* Vol. 53: 19-20. September, 1916.

SCOFIELD, F. A. *Junior high school at McMinnville, Oregon.* Vol. 50: 11-13, 65. March, 1915.

STACY, C. R. *Tentative standards for junior high school administration.* Vol. 55: 19-20. August, 1917.

WHITNEY, F. L. *Junior high school idea in the small town.* Vol. 48: 11-12. March, 1914.

AMERICAN TEACHER.

HARTWELL, CHAS. S. *Junior high school for increased economy and efficiency.* Vol. 5: 37-39. March, 1916

ANNALS OF AMERICAN ACADEMY OF POLITICS AND POLITICAL SCIENCE.

BONSER, FRED G. *Junior high school and vocational education*. Vol. 67: 171-72. September, 1916.

EDUCATION.

ABELSON, JOSEPH. *Bibliography of the junior high school*. Vol. 37: 122-9. 1916.

Study of the junior high school project. Vol. 37: 1-19. October, 1916.

PETERS, CHAS. C. *What the grammar school has a right to expect of the higher schools*. Vol. 36: 415-24. March, 1916.

BRIGGS, T. H. *Possibilities of the junior high school*. Vol. 37: 279-89. January, 1917.

FOSTER, J. M. *Junior high school in villages*. Vol. 37: 495-503. April, 1917.

LULL, H. *The six-year high school*. Vol. 30, p. 75-24. September, 1909.

EDUCATIONAL ADMINISTRATION AND SUPERVISION.

BONSER, F. G. *Democratizing secondary education by the 6-3-3 plan*. Vol. 1: 567-76. November, 1915.

JOHNSTON, CHAS. HUGHES. *Junior high school administration*. Vol. 2: 71-86. February, 1916.

Movement toward the reorganization of secondary education. Vol. 1: 165-72. March, 1915.

COX, P. W. L. *Discussion of Mr. Cheesman A. Herrick's criticism of the junior high school*. Vol. 3: 23-29. January, 1917.

GILES, J. T. *Effect on first six grades of junior-senior high school organization*. Vol. 3: 269-74. May, 1917.

NEWLON, J. H. *Need of a scientific curriculum policy for junior and senior high schools*. Vol. 3: 253-68. May, 1917.

STACY, C. R. *Junior high school movement in Massachusetts*. Vol. 3: 343-50. July, 1917.

STUDY, H. P. *Preliminary steps in organizing a junior high school*. Vol. 3: 339-42. July, 1917.

EDUCATIONAL BI-MONTHLY.

HOSIC, JAMES FLEMING. *Junior high school*. Vol. 10: 175-81. December, 1915.

EDUCATIONAL CONFERENCE.

STACY, C. R. *Bridgewater normal school and the intermediate school movement*. Vol. 1: 1-5. March, 1916.

EDUCATIONAL REVIEW.

DAVIS, C. O. *Reorganization of Sec. Ed.* Vol. 42: 270-301.

SNAVELY, GUY E. *Junior high school and college*. Vol. 51: 40-9. June, 1916.

FLEAGLE, F. R. *Trade instruction*. Vol. 52: 456-63. December, 1916.

SMITH, C. E. *Mathematics in the junior high school*. Vol. 53: 391-96. April, 1917.

EDUCATIONAL-JOURNAL.

INGLIS, A. J. *Junior high school*. 3: 55-58. April, 1917.
Junior high school. 17: 292-4. January, 1917.

Junior high school at Hudson, Ohio. 17: 466-7. March, 1917.

Junior high school in the East. 18: 2-3. September, 1917.

Junior high school in the West. 18: 3-6. September, 1917.

MANGUN, V. L. *6-6 plan at Macomb, Illinois*. Vol. 18, pp. 598-617. April, 1918.

One motive for organizing the junior high school. 17: 379-80. February, 1917.

ELEMENTARY SCHOOL JOURNAL.

Junior high school movement. Vol. 15: 114-18. November, 1914.

HORN, P. W. *Junior high school in Houston, Texas.* Vol. 16: 91-5. October, 1915.

LLEWELLYN, E. J. *6-3-3 plan at Mount Vernon, Ind.* Vol. 16: 508-10. May, 1916.

Junior high school in Lewiston, Idaho. Vol. 16: 454-6. May, 1916.

TRYON, R. M. *History in the junior high school.* Vol. 16: 491-507. May, 1916.

EDUCATOR JOURNAL.

HELM, M. P. *Junior high school.* Vol. 17: 353-57. March, 1917.

HINES, H. C. *Present status of the junior high school.* Vol. 17: 462-65. May, 1917.

GENERAL SCIENCE QUARTERLY.

CARPENTER, H. A. *General science in the junior high school at Rochester.* 1: 46-53. November, 1916.

HARVARD TEACHERS' ASS'N. LEAFLET.

INGLIS, A. J. *Junior high school.* L. 2: 1-9. October, 1916.

JOURNAL OF EDUCATION.

CHAPMAN, I. T. *Obstacles to be encountered in establishment of junior high school.* Vol. 83: 537-41. May, 18, 1916.

GRIFFIN, O. B. *Junior high school.* 84: 399-402. October, 1916.

HARRIS, JAMES H. *Six-and-six plan.* Vol. 81: 89-91, 102-103. January 28, 1915.

Junior high school. Vol. 82: 342-47, 352-53. October 14, 1915.

INGLIS, A. J. *Junior high school*. 84: 595-7. December 14, 1916.

JOHNSTON, C. H. *Junior high school*. Vol. 84:91. July, 27, 1916.

Rochester and junior high schools. Vol. 83: 377. April, 6, 1916.

SCOFIELD, F. A. *Functions of the intermediate school*. Vol. 79: 429-31.

WESTCOTT, R. W. *Outside activities of junior high school pupils*. 85: 91-93, 104. January 25, 1917.

WINSHIP, A. E. *Junior high school*. Vol. 83: 91-2. January 25, 1916.

JOURNAL OF GEOGRAPHY.

KIRCHWEY, C. B. *Geography in the junior high school*. Vol. 14: 291-4. April 16, 1916.

KENTUCKY HIGH SCHOOL QUARTERLY.

BAKER, GEORGE MARSHALL. "Six-six." Vol. 1: 5-32. July, 1915.

JONES, O. J. *Junior high school*. 3: 23-55. July, 1917.

LYON, M. E. *Junior high school movement*. 3: 24-27. January, 1917.

MANUAL TRAINING.

Advantages of the junior high school. Vol. 17: 640-1. April, 1916.

MATHEMATICS TEACHER.

GENTLEMAN, F. W. *Content of a mathematical course for the junior high school*. 9: 209-18. June, 1917.

MIDLAND SCHOOLS.

BINGAMAN, C. C. *Junior-senior high school in practice*. Vol. 30: 178-80. February, 1916.

LEWIS, E. E. *Debate on the six-six plan*. Vol. 30: 139-40. January, 1916.

OHIO EDUCATIONAL MONTHLY.

Junior H. S. Vol. 65: 390-97. August, 1916.

GRADY, G. O. *Junior high school.* 66: 393-397. September, 1917.

OHIO TEACHER.

KINKEAD, R. G. *Columbus idea of the six and six plan.* Vol. 35: 248-9.

OREGON TEACHERS' MONTHLY.

RUTHERFORD, W. R. *Junior high school.* 21: 149-151. November, 1916.

PEDAGOGICAL SEMINARY.

DOUGLASS, AUBREY AUGUSTUS. *Present status of the junior high school.* Vol. 22: 252-74. June, 1915.

LAWSON, MARY F. *Socialization of language study in the junior high school.* Vol. 23: 76-85. March, 1916.

SCHOOL AND HOME EDUCATION.

BAGLEY, W. C. *Six-six plan.* Vol. 34: 3-5. September, 1914.

Prof. Judd's criticism of the eight year elementary curriculum. Vol. 34: 212-16. February, 1915.

Six-six plan and early differentiation. Vol. 34: 239-41. March, 1915.

BROWN, G. A. *Junior high school.* Vol. 36: 6-8. September, 1916.

HOLLISTER, H. A. *Junior high school.* Vol. 35: 117-20. December, 1915.

SCHOOL REVIEW.

INGLIS, ALEXANDER. *A fundamental problem in the re-organization of the high school.* Vol. 23: 308-18. May, 1915.

JUDD, CHARLES H. *Junior high school.* Vol. 23: 25-33. January, 1915.

- Junior high school.* Vol. 23: 492-4. September, 1915.
Junior high school. Vol. 24: 249-60. April, 1916.
- DAVIS, C. O. *Junior high schools in North Central Association territory, 1917-18.* Vol. 26: 324-336. May, 1918.
- MCCARTNEY, L. *Junior high school.* Vol. 25: 652-8. November, 1917.
- ROBINSON, F. V. *Reorganization of the grades and high school.* Vol. 20: 665-88. December, 1912.
- STETSON, PAUL C. *Statistical study of scholastic records of junior high school students.* Vol. 25: 617-36. November, 1917.
- STETSON, PAUL C. *Statistical study of enrollment in Junior high school.* 26: 233-45.
- BAGLEY and JUDD. *Enlarging the American elementary school.* Vol. 26: 313-323. May, 1918.
- WEET, H. S. *Junior high school* (Rochester, N. Y.). Vol. 24: 142-51. February, 1916.
- SCHOOL AND SOCIETY.
Junior high school in New York. Vol. 5: 344. March 24, 1917. Same, 5: 591. May 19, 1917.
- HAMILTON, W. I. *Attempt to define junior high school.* 5: 589. May 19, 1917.
- LODGE, G. *Latin in the junior high school.* Vol. 1: 300-4. February 27, 1915.
- SIERRA EDUCATION NEWS.
BENNETT, G. V. *Intermediate school.* Vol. 12: 592-594. November, 1916.
- TEACHERS' JOURNAL.
NUTT, HUBERT W. *Reorganization of the period of elementary and secondary education.* Vol. 15: 113-118; 152-57. September-October, 1915.

CRAIG, R. C. *Woodwork for the junior high school*. Vol. 16: 632-5. June, 1915.

Jr. H. S. at Trenton, N. J. 18: 304. March, 1917.

LEAVITT, F. M. *Six-three-three plan*. Vol. 16, p. 240-242.

Miscellaneous Reports.

California State Commissioner of Secondary Education.
Reports 1914, 1915, 1916.

Detroit, Michigan. *Handbook of the Detroit junior high schools*. Board of Education, 1916-7.

Goldfield, Iowa. BINGAMAN, C. C. *Report of superintendent on junior high schools in U. S.*

Houston, Texas. *Annual report of the public schools*.
Board of Education, 1916-17.

Illinois State Teachers' Association, 1915.

JOHNSTON, C. H. *Junior high school administration*. P. 116-23.

Illinois University, High School Conference, 1916, bulletin 21, Vol. 13.

BARTON, H. J. *Latin in the junior high school*. P. 53.

HOLLISTER, H. A. *Junior high school administration*. P. 32-42.

Iowa, University of, Extension division bulletin No. 25 (first series, No. 6), 1916. LEWIS, E. E. *Standards of measuring junior high schools*.

Kentucky Educational Association (Louisville), 1915.

GATTON, HARPER. *Six-six plan*. P. 196-99.

HOUSTON, T. A. *Six-six plan*. P. 102-6.

Los Angeles (Calif.). *Annual report superintendent of schools*, 1914.

Report of the advisory committee to Board of Education, 1916. P. 88-103.

Michigan, University of. *Bulletin N. S.* Vol 17. No. 9-'15.

- DAVIS, CALVIN O. *Subject matter and administration of the 6-3-3 plan of secondary schools.*
Middlebury (Vermont) College Bulletin. Vol. II, No. I, 1916.
- HOWARD, E. E. *Junior high school.*
Minnesota, Department of Education. Bulletin 59, 1916.
- PHILLIPS and BARNES. *Junior high school problem.*
Mississippi Teachers' Association. Laurel, Miss., 1915.
- CLAXTON, P. P. (Report of Dr. Claxton's address on the 6-6 plan). P. 37-39.
Missouri, state superintendent, public schools. Sixty-sixth report of public schools of Missouri for year 1915-16.
- Missouri State Normal School (Springfield) Bulletin. Vol. 10, p. 21-48. October, 1915.
- HILL, CLYDE M. *Junior high school movement.*
New Hampshire, department of public instruction, division of secondary schools, 1916. *Junior high school organization.*
- New York City, High School Teachers' Association of, bulletin 59. January, 1916.
- ABELSON, JOSEPH. *Bibliography of the junior high school.* P. 16-28.
- HARTWELL, C. S. *Junior high school in New York City.* P. 14-16.
- New York State University Convocation. Proceedings of the convocation, October 19-20, 1916.
- BRIGGS, T. H. *Possibilities of the junior high school.* P. 92-103.
- North Central Association of Colleges and Secondary Schools (Chicago), 1914.
- BROWN, H. E. *Suggested plan for the re-organization of the American high school.* P. 17-30.

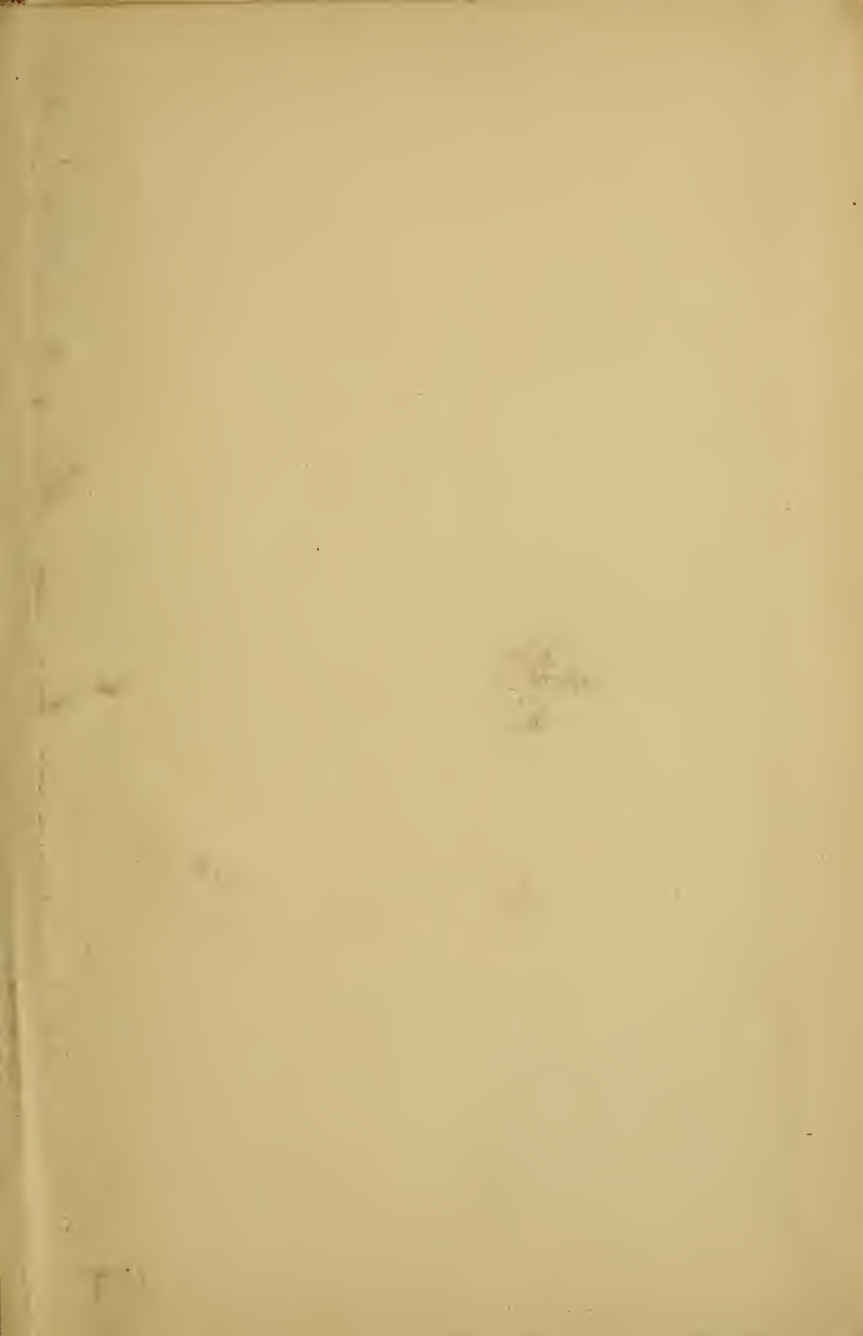
- Proceedings of 1916. *The junior high school, the senior high school, and the junior college.* P. 40-50; 174-92.
- Ohio State Teachers' Association. Proceedings, August, 1916.
- HAWKINS, WILSON. *The six-six plan.* P. 355-75.
- Pomona (California) Schools Bulletin, No. 8, *Junior high school—1917.*
- Society for the Study of Education, National, fifteenth yearbook, 1916, part III. Public School Pub. Co., Bloomington, Ill.
- DOUGLASS, A. A. *The junior high school.*
- Society for the Promotion of Industrial Education, National, tenth annual meeting, bulletin 24.
- BROGAN, W. S. *Prevocational schools vs. continuation schools and the junior high school.* P. 174.
- WETZEL, W. A. *Junior high school and prevocational education.* P. 188-191.
- Southern Education Association (Nashville, Tenn.), 1913.
- FERTIG, J. W. *Is not a six-year elementary course preferable?* P. 52-64. Discussion p. 65-73.
- Vocational Education Association of Middle West, second annual convention.
- WILES, E. P. *Junior high school.* Voc. Ed. Assn. of Middle West. Second Ann. Conv. P. 126-129.
- STETSON, P. C. *Curriculum of junior high school.* P. 130-135.
- GLASS, J. M. *Results of first year's work at Washington junior high school.* Rochester, N. Y. P. 105-124.
- HILL, C. M. *Junior high school in Vermont.* P. 124-135.
- Washington Education Association (Tacoma, Wash.), 1914.
- KERN, W. M. *Junior-senior high school.* P. 110-112.
- TIFT, S. E. *Six-six plan of grading.* P. 102-9.

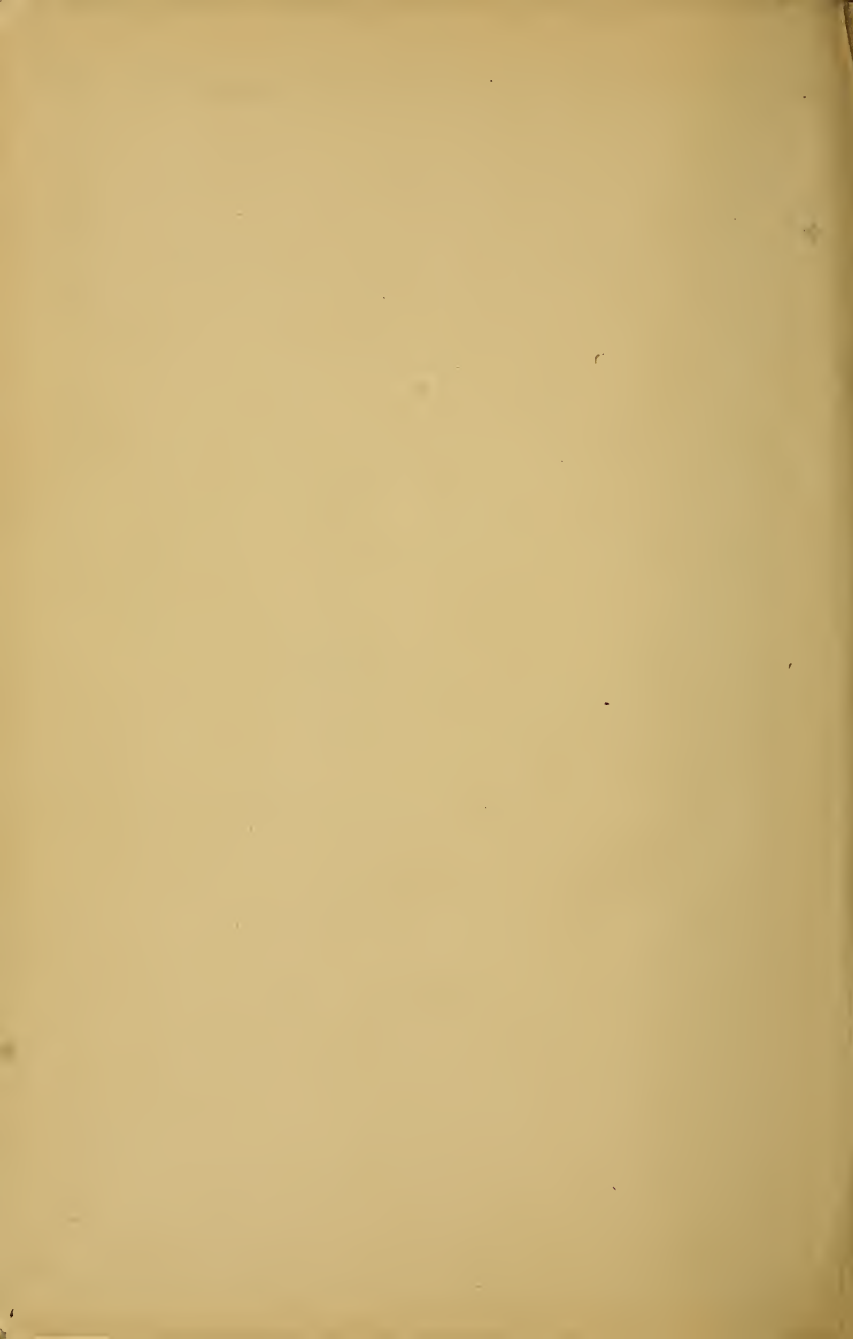
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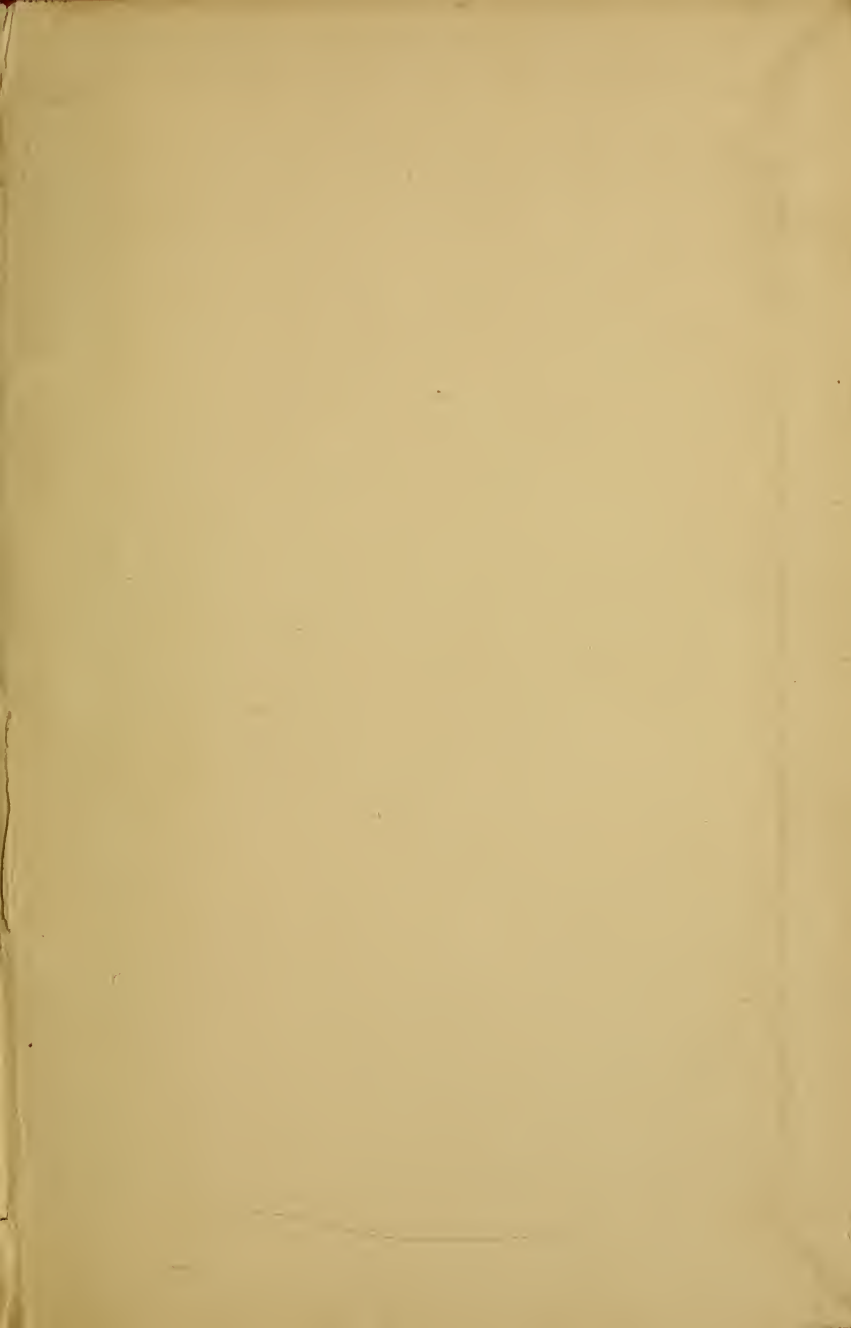
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